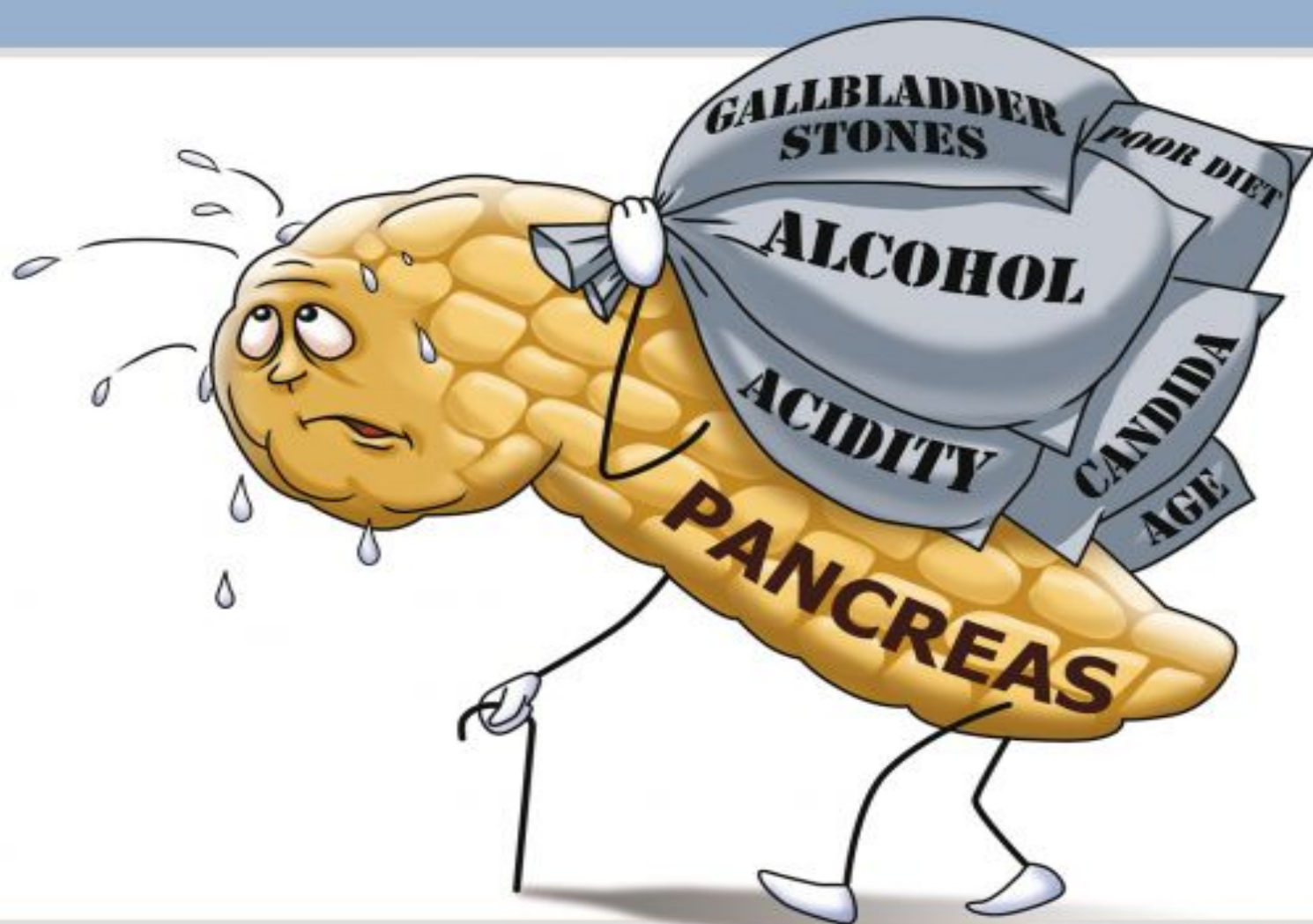


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HEALTHY *PANCREAS*, HEALTHY *YOU*

Part 3



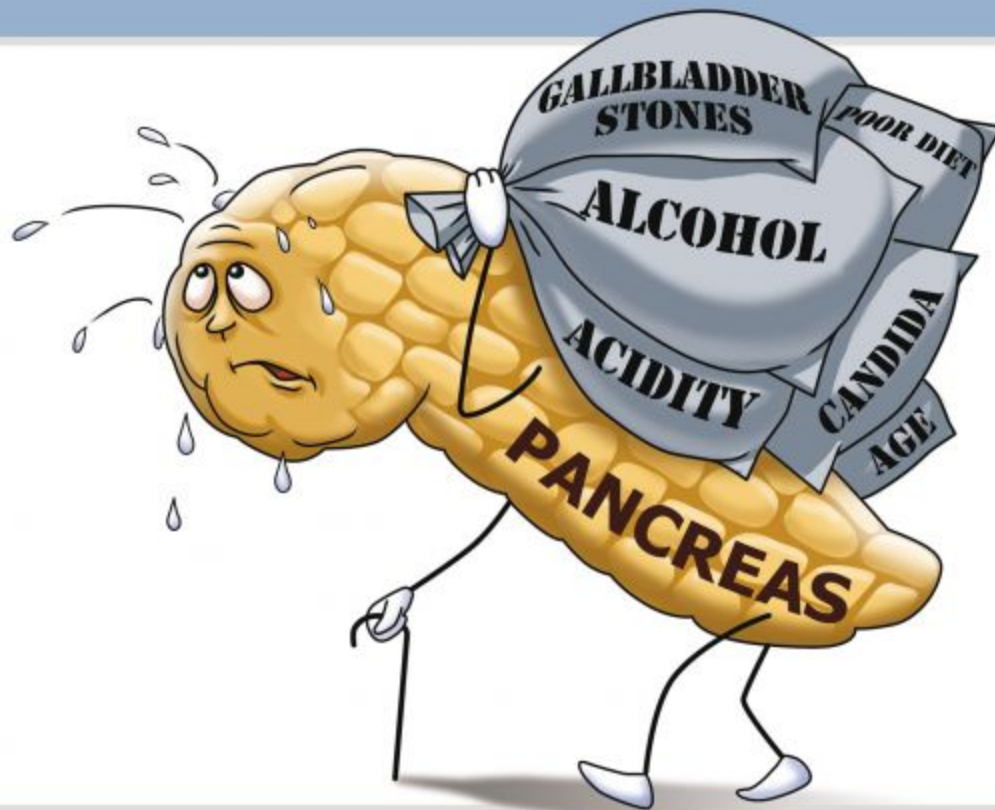
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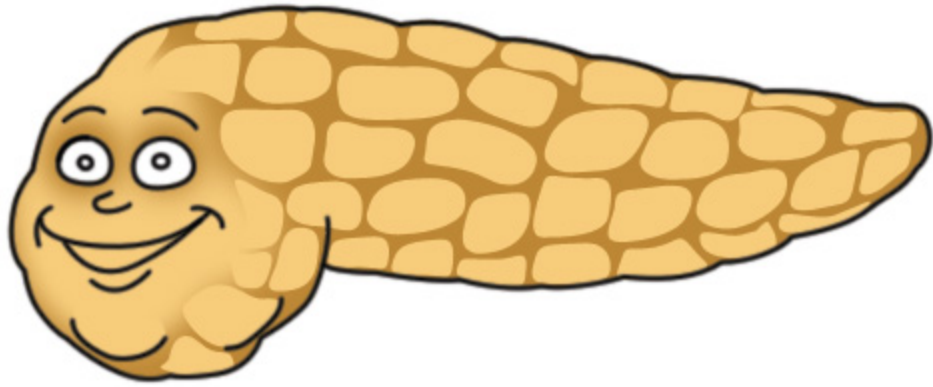
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HEALTHY PANCREAS, HEALTHY YOU

Part III

HOW TO IMPROVE THE EXOCRINE PANCREATIC FUNCTION, POSTPONE PANCREATIC DETERIORATION, AND HEAL DIGESTIVE (PANCREATIC) DISORDERS

For patients and health practitioners

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Biotherapy, Inc. San Francisco

E-book version of **HEALTHY PANCREAS, HEALTHY YOU** consist of
three
interrelated parts:

Part I STRUCTURE, FUNCTION AND DISORDERS OF THE PANCREAS

Part II HEALING FOOD IN THE DIGESTIVE (PANCREATIC) AND METABOLIC DISORDERS

Part III HOW TO IMPROVE THE EXOCRINE PANCREATIC FUNCTION, POSTPONE PANCREATIC DETERIORATION, AND HEAL DIGESTIVE (PANCREATIC) DISORDERS

References

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As a pampered pet or as a lurked panther, it built its head in the bend of duodenum. It sprawled its delicate body on the aorta and aorta lullabies it by rhythmic pulsation movements. It carelessly put its slightly curved tail in the spleens gate. Yes, it is as a beautiful predator, which, when disease strikes, can unexpectedly cause irreparable injury.

This is your pancreas, is beautiful as the angel of heaven, but can be as daemon deceptive and evil. Your pancreas is a hard worker, an organ of many talents and tasks.

Save it, help it, heal it.

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FOREWORD

The pancreas is a forgotten organ in the human body.

By the way, where is your pancreas located? Very few people point their fingers in the right place. It is almost one of the unknown organs in the gastrointestinal tract. Very few are familiar with normal pancreatic function too. The popular pancreatic interests are centered mostly with diabetes and pancreatic cancer.

This book is about the pancreas. Writing this kind of book causes the serious dilemma of how to make the reading of this book useful and easy to understand for people without a medical background and, from another hand, making it practical for the medical professionals, which don't need popularization, but are interested in scientific dates and clinical details?

1st chapter section

The authors have their own writing style. Every beginning of a chapter will have a section *for individuals lacking a medical background* devoid of getting into the jungle of heavy medical and chemical terminology. This section of the book is for average individuals without deep medical knowledge but with common sense and willingness to learn more. In this case, simple words, charts, analogies, and pictures will be used.

It is difficult to find a person that does not have digestion problems. The digestive system, or gastrointestinal tract, includes hollow tube organs, such as the mouth, throat, esophagus, stomach, small and large intestines as well as solid glands such as the salivary glands, liver, and pancreas.

The pancreas is a vital organ for our body. People can survive without the stomach, small intestine, and colon but not without the pancreas. Life depends on this small gland, deeply hidden inside the abdomen cavity. The pancreas is an organ with dual tasks. Most individuals are only aware about the role of the pancreas in sugar metabolism, and that pancreas produces insulin, the vital hormone to prevent diabetes.

The second function of the pancreas is producing digestive enzymes - powerful proteins that split food we eat into particles small enough to travel through the intestinal wall so that we can digest and assimilate this food.

Ask anyone around and almost everyone have some sort of annoying GI symptoms: gas, abdominal distention, belching, heartburn, abdominal cramps, pains, nausea/vomiting, diarrhea/constipation, and so on.

What many people do not realize is that the function of many organs and systems and the whole body's health, strongly depend upon the health of our digestive system. Our health and life depends upon the quality and amount of food we eat and how we can digest this food, assimilate this food, and eliminate waste. The pancreas is a key player in the digestive team. This book focuses about the close relationship between the liver, gallbladder, pancreas, and intestines. Normally, these organs work as orchestra, but in sick conditions, they are bickering foes.

From this book, you will learn about the connection of the endocrine (hormonal) and exocrine (producing and releasing digestive enzymes) functions of the pancreas.

-How to improve the function of the pancreatic gland, as a whole organ?

-How to increase the production and activity of digestive pancreatic enzymes?

- How to help the pancreas to heal and postpone severe complications after the first attack?
- How to help a sick and weak pancreas without drugs and knives?
- How to increase insulin sensitivity?

Here, readers will find the answers to these very important questions.

Most human diseases depend on two big problems:

1. The deficiency of vital substances in the body such as water, proteins, minerals, trace elements, vitamins and so on. As your car without gasoline stops moving, so the deficiency of the vital nutrients will stop the organs from performing their proper tasks.
2. Toxicity (chemical or biological): Toxicity literally kills the cells and harmfully influences the body's metabolism causing inflammation, pain, cancer development and so on.

These two factors are directly related to pancreatic health. Besides that, this book will try to explain how the whole body acidity – metabolic acidosis destroys the pancreas and proper work of pancreatic enzymes and pancreatic hormones.

Millions of Americans suffer from a variety of gastrointestinal disorders including abdominal pain, stomach discomfort, cramps, gas, bloating, heartburn, cravings, malnutrition, alteration in bowel habits, foul-smelling stool, etc. Many of these sufferers have pancreatic deficiency and do not realize it.

Those suffering from this problem can eat a healthy diet, but the body will not properly utilize the food's nutrients. Their organisms are literally starving. Some people can be overweight but their body can have severe malnutrition. Without the proper amount and good quality of pancreatic digestive enzymes, even the "healthiest" diet in the world will not make you healthy, good looking and young.

Without the proper function of the pancreas, which produces the right amount of high quality digestive, pancreatic enzymes, people cannot properly digest food; therefore, they suffer also from a deficiency of essential minerals, trace elements, and vitamins. This deficiency leads to serious disturbances of the gastrointestinal tract and the entire organism.

Millions of people are continually tired, develop chronic diseases, and age prematurely. In the worst case scenario, they develop pancreatic cancer.

People can suffer from a hidden pancreatic deficiency and do not even know that a lack of the pancreatic digestive enzymes can also increase inflammation, body's pain, and a lack of energy, hindering the body's ability to heal the wounds and traumas.

The popular health books and websites focus on the liver, colon, heart and stomach but not on the pancreas. On the other hand, there is not much medical literature concerning pancreatic health either. Various specialists have different opinions focusing on different aspects of the pancreatic health.

This sounds a lot like the story about six blind men who were asked to determine what an elephant looked like by feeling different parts of the elephant's body. The blind men guessed that the elephant looked either like a

pillar, rope, tree branch, hand fan, wall or solid pipe from feeling the elephant's leg, tail, trunk, ear, belly and tusk (in that order). All the blind men were correct, but this was far from the real picture obviously.

In this book, you will find personal viewpoints from the authors on digestive (pancreatic) problems, which are confirmed by common sense, years of the authors' personal, clinical experiences but also scientific information from many respectful researchers and medical doctors.

If you have health problems, you will find many recommendations in this book. Do not use them as medical advice. Try to find knowledgeable medical providers to work with. Belief, willingness, patience, and self-discipline are required for this job.

2nd chapter section

The rest of each chapter is provided *for individuals with a medical background* wishing to know more and, certainly, for medical professionals.

Today, researchers and medical practitioners look at the pancreas and make different points of view on cause, development, and possible treatment of its disorders and diseases according to their own specialty.

Having medical experience in acute, intensive care, outpatient clinic and private practice in digestive disorders' allows the authors sharing of thoughts about pancreatic health.

Some topics about pancreatic health in this book are new and will sound strange to some.

To convince conservative, but interested in this topic persons, more than 300 referrals from respectful and reputable medical books, textbooks, magazines, articles, and websites are referenced. These referrals are scientific and clinical works regarding pancreatic function, health, disorders of the pancreas and their treatment of respectful and well known professors, researchers, medical doctors and health practitioners from the USA, Canada, North and South America, Europe, Asia, Russia, etc.

Medically speaking, the pancreas by itself is also in a strange situation. Disorders of the exocrine function of this organ are the priority of the gastroenterologists, but other specialists treat pancreatic endocrine diseases such as diabetes.

Let's take, for example, chronic pancreatitis. Even authorities in pancreatic diseases do not have a consensus what is the main reason for developing this serious disease.

In all medical schools' textbooks of gastroenterology (for example, Yamada T *et al*, Sleisenger & Fordtran's, etc.), it can be seen that the clinical presentation of chronic pancreatitis starts from steatorrhea, malabsorption, diabetes, pain and weight loss. This condition in the medical literature is called "pancreatic insufficiency". Sorry to say, it is not pancreatic insufficiency; this is real pancreatic failure similar to kidney, liver, heart and lung failure.

Clinical description of chronic pancreatitis begins from the final stage of this disease, when only 10% functional capacity is left, and the treatment approach is very limited. This is a medical paradox.

From the first attack of pancreatitis to pancreatic failure takes about 8 -15 years. Therefore, the focus has to be done in this time, to prevent pancreatic failure, which is called chronic pancreatitis now. Even for brilliant specialists with virtuous technique and sophisticated equipment it is not an easy task to help patients when the pancreatic tissue and 90% functionality is gone.

Successful treatment of pancreatic diseases nowadays is generally difficult and requires many different approaches.

Exocrine pancreatic disorders are more common than formerly believed both in diabetic and non-diabetic people. For instance, autopsy studies indicate pancreatic involvement in 13% of a “normal” population. Some clinical studies find the relation between functional digestive diseases and low pancreatic function. In almost all chronic diseases of the gastrointestinal tract, exocrine pancreatic function is diminished.

87,000 cases of pancreatitis annually occur in the USA. This is only the tip of the iceberg of digestive (pancreatic) diseases. Acute and chronic pancreatitis are diseases on the rise.

The diagnosis of chronic pancreatitis can be challenging since laboratory studies and imaging procedures may be normal, especially in the beginning of this process. Most attacks of pancreatitis are mild and go undiagnosed.

Some authorities in the pancreatic field consider that 8% of diabetes mellitus cases are caused by chronic pancreatitis. On the other hand, a large number of diabetics suffer from digestive problems as well.

According to the statistics, the epidemic of obesity leads to a rise in epidemic proportions of nonalcoholic fatty liver disease (fatty liver). There is growing evidence that the fatty liver combines with the fatty pancreas with lowering of both their functions.

More than 25 million people in the United States suffer from liver, bile duct, or gallbladder diseases, according to the American Liver Foundation. No question that in many of these cases, there is close pancreatic involvement.

The authors' viewpoint that the pandemic of digestive (pancreatic) disorders is strongly interrelated with the pandemics of metabolic acidosis and

dysbiosis will be attempted to be proven in this book.

Medical providers can help their patients by focusing on early stages of the pancreatic disorders. The authors propose that the practical, clinical classification of the exocrine pancreatic deficiency stages be the following: functional, structural, and irreversible. For each of these stages, the reader will find healing programs and recommendations.

It is time for medical professionals to reassess established protocols dealing with pancreatic health. Medical practitioners are used to looking at the pancreas as an “accessory” digestive gland. Yet, here it is considered that the pancreas is one of the body’s essential organs. Moreover, it is believed that all gastrointestinal health critically depends upon the proper functioning of this vital organ.

Basic scientific and clinical evidence currently encourages a fresh, holistic look at the development of pancreatic disorders, particularly a comprehensive look at the pancreas as a whole and vital organ.

In the minds of the authors, here are the most salient points:

>Almost all problems of the GI tract are closely related with the proper functioning of the pancreas. Therefore, a clinical diagnosis of a gastrointestinal disorder *de facto* includes pancreatic disorders

>The pancreas is the main organ of the entire digestive system. It is vital for the pancreas to have strong and healthy relationships and connections to its “neighbors” and “co-workers” such as the liver, gallbladder, stomach, duodenum, small and large intestines

>Today, the medical view on digestive disorders narrowly focuses on the “hollow” organs such as the stomach, small and large intestines without any attention on the “solid” digestive glands such as the pancreas and liver. It is known that without proper quality and quantity of pancreatic juice and bile, the normal digestive process in hollow chambers could not occur

>Furthermore, it is important to look at the close relationship between exocrine and endocrine functions of the pancreas when assessing pancreatic

disorders. Both pancreatitis and diabetes are diseases of the pancreas, and they have many similarities in point of causes, development, symptoms, course, complications, and treatment

- > Pancreatic disorders develop relatively slowly; therefore, medical professionals need to be more sensitive and focus on the first silent signs and symptoms at the beginning of the illness

- > The treatment of pancreatitis at the final stage of the disease is very difficult; preventive measures and treatment at the early stages of these diseases are more likely to stop or reverse the progression of the disease and to postpone pancreatic failure

- > Normal pancreatic function is vitally dependent upon maintaining homeostasis of the body. Metabolic acidosis and a deficiency of proteins, vitamins, minerals, trace elements, and bicarbonates have a serious and negative impact on pancreatic function, digestion and entire health

- > For healing purposes, it is essential to focus on the patients' lifestyle, and diet and their possible impact on the development of pancreatic disorders

- > It is difficult to overestimate the positive or negative impact of food on digestive (pancreatic) disorders. Therefore, the patient must be taught the proper customized healing diet and then must adhere to the dietary recommendations

- > Digestive (pancreatic) disorders must be observed with an outlook on the regulation of the pancreas by digestive hormones, as well as the nervous and endocrine systems

- > Positive changes of harmful environmental, toxic, parasitic, and dysbiotic factors are necessary for the prevention and treatment of digestive (pancreatic) disorders

This book is an attempt for a fresh and deep, holistic look into the pancreas, its structure, and function as a vital organ for whole body. This book focuses on the many ways of to improve the functions of the pancreas by using nondrug, non-surgery approaches. These rational approaches have been used for hundreds of years by medical doctors, and health professionals all over

the globe for millions of their patients to improve the digestive (pancreatic) health.

The authors have used many of these methods in their practice for decades with positive results. Some of these holistic, alternative and complementary approaches for healing and avoiding pancreatic disorders are absolutely unknown by the American public and medical professionals, for example, using healing mineral water and a medical diet for pancreatic ailments.

Because the pancreas is a very complicated essential organ with many puzzles and mysteries, prevention and treatment of pancreatic disorders are extremely difficult problems and require many disciplinary approaches.

The authors consider that there is only one medicine to help people prevent and treat the diseases but that implementation can be different. Successful treatment of pancreatic diseases requires a team approach. Practitioners of complementary or alternative medicine can be very good players in this process, especially in the early stages.

The authors emphatically believe that healing approaches described in this book can improve the quality of life and life span of sufferers of pancreatic diseases.

The medical credo of the authors: *“The treatment of disease must be less dangerous than disease by itself!”*

The authors hope that this book will be useful to many different health professionals: medical doctors, naturopathic physicians, RNs, chiropractors, herbalists, acupuncturists, nutritionists, and colon hydro therapists and, most importantly, for the hundreds and thousands of sufferers with the digestive (pancreatic diseases).

Evidence based clinical and scientific practice has been shown in this book:

Healthy pancreas means a healthy organism

Authors

Chapter33-European-Style Healing for Digestive (Pancreatic) Disorders – Karlovy Vary Healing Mineral Water

For individuals lacking a medical background

Most North Americans tend to think of mineral water as something to drink either as a snack or with meals. However, for more than 500 years, European doctors have used mineral water for Health and Wellness. Mineral water has been used either for bathing or for drinking. Statistics show that Americans die earlier and have more disabilities than Europeans have. One reason for this might be that many Europeans spend their vacations in health mineral spas to restore and maintain their health.

a. History

The most popular drinking healing mineral water is from the Karlovy Vary health-resort in the Czech Republic — the spa pearl of Europe. Karlovy Vary also referred to as Carlsbad in English or Karlsbad, in German, is a spa town known worldwide for its healing, thermal, mineral springs. The Czech town

of Karlovy Vary has been a famous international healing resort since the 1700s. Europeans call the town's mineral water "healing gift from the earth" or the "miracle mineral water." Visitors throughout Europe and Asia have traveled to Karlovy Vary for one to six month stays to drink the Karlovy Vary Healing Mineral Water (KVHMW) for different chronic health conditions, cleansing and detoxification.



According to legend, one of the first patients was the Roman Emperor and Bohemian King Charles IV (Karl IV), whose name the town of Karlovy Vary (Charles Springs – Karlsbad) bears. Vary means "the place of boiling" in Czech. Archaeological findings, however, show evidence that the beneficial effects of the local springs had been known to the local inhabitants long before patients began visiting the area. Nevertheless, a new period began with the Emperor's approval.

The first historically documented therapeutic procedure was carried out at the turn of the 14th century when Charles IV bathed his aching legs in the mineral water of one of the springs. Having tried the vital and beneficial influence of the mineral water from the hot spring on himself, the Emperor Karl IV ordered to build a town in this area and named it after himself – Karlsbad or Karlovy Vary, on August 14, 1370.

Since those early days, Karlovy Vary has flourished as a sacred place of healing and found recognition among health professionals and patients from

all over Europe.

Physicians became interested in the springs, and their research confirmed the beneficial effects of drinking and bathing cures. The spas of Karlsbad became places that were gradually gaining world recognition.

Monuments and memorial plaques in the town are the reminders and enthusiastic expressions of approval for its hot spring waters and significant treatments. Music composers Anton Dvorak, Wolfgang Amadeus Mozart, Ludwig van Beethoven, Bedrich Smetana, Nicolo Paganini, Johannes Brahms, Peter Tchaikovsky; writers and poets Nikolai Gogol, Ivan Turgenev, Aleksey Tolstoy, Johann Wolfgang von Goethe, Friedrich von Schiller, Adam Mizkevich, Alexander Dumas; notables Tsar Peter the Great, Emperor Franz Joseph, Persian shah Muz-far-ed-din, Otto Edward Leopold von Bismark, King Juan Carlos I of Spain, Queen Elizabeth, Michael Gorbachov, Madeleine Albright; researchers Ivan Pavlov, Sigmund Freud, Karl Marx; Hollywood stars Mary Pickford, Douglas Fairbanks, Sharon Stone, Renée Zellweger and Queen Latifah all underwent significant treatment at the resort. <http://www.karlovy-vary.cz/en/>

During the time of the Soviet Union, a special sanatorium for Communist party and military elite was built here. Karlovy Vary has been attracting Russians after the attendance of the Russian Tsar Peter the Great. He visited this town twice in 1711 and 1712, drank mineral water and felt much better afterwards.

After Tsar Peter the Great has returned, he ordered to find similar thermal springs in Russia. Thanks to Tsar Peter the Great, numerous locations were discovered.

In the 17th century, it became popular for wealthy Russians from Moscow and Saint Petersburg to spend the summertime in Caucasus for the “water cure.” Treatment in the healing mineral water spas or sanatoriums is a very common traditional practice for Russians even now.

What gives the mineral water from hot Karlovy Vary springs such exceptional power?

Rain waters, absorbed by the ground in a specific geological zone, pass deep down through numbers of cracks and clefs in granite at the depth of about 2 kilometers beneath the earth crust, and are heated by the residual activities of sleeping volcanoes. On their way up to the surface, these waters are saturated with carbonic acid, minerals and trace elements.

Karlovy Vary Healing Mineral Water (its chemical compound contains the combination about 40 minerals) that gives the resort world – wide fame and recognition.

The healing effects of this water are based on the result of optimal action of its main components: cations (sodium, potassium), anions (bicarbonates, sulphates, chlorides) and trace elements. These components possess high biochemical activity and are essential for normal body activities.

For many years, Karlovy Vary water was carried by barrels and bottles all over Europe for the treatment of rich people. European doctors understood that mineral content is a major healing factor of this water, and research was done to manufacture the salt from the evaporated thermal spring water. In 1764, a method was discovered that made it possible to distribute the water all over the world. Czech doctors determined that the water manufactured from the genuine Karlovy Vary thermal spring salt had identical healing properties as at the spring.

From that time on, people who could not travel to Karlovy Vary could undergo or continue the treatment at home. The natural Karlovy Vary salt is produced by evaporating mineral waters from the famous hot spring Vřidlo. By dissolving the Genuine Karlovy Vary mineral salt in warm water, one can obtain the healing mineral water with identical healing properties to the water from the Karlovy Vary hot water springs. Karlovy Vary produced 90 tons of this salt that was distributed throughout Western and Eastern Europe.

By dissolving the Genuine Karlovy Vary mineral salt, one can obtain Karlovy Vary Healing Mineral Water (KVHMW). Because this is a healing potion, this water is not to be drunk just when thirsty. This “magical” water contains healing properties for a variety of chronic disorders, as well as for

health maintenance. European doctors and scientists have used the water for centuries. Now, North Americans finally have the opportunity to benefit from this healing product, as well. The salt is a unique, ecologically clean product that is manufactured at Karlovy Vary, Czech Republic.



All that one needs to do for drinking Karlovy Vary Healing Mineral Water at home is to dissolve the Genuine Karlovy Vary Thermal Spring Salt in the water

Karlovy Vary Healing Mineral Water (KVHMW) is the first mineral supplement that has been scientifically researched and used for healing of millions of people for more than 250 years. During this time, millions of Europeans with chronic gastrointestinal, liver, kidney diseases, metabolic disorders, toxic overload, etc, were treated by KVHMW with positive results, even when other methods were helpless.

Without bricks, we cannot build a house. Without essential minerals and trace elements, we cannot count on the proper function of our cells, tissues and organs. We need a regular supply of them. Sorry to say, but modern food does not provide an abundant source of minerals or trace elements. Often, modern food promotes depletion of these essential minerals from our body.

Karlovy Vary Healing Mineral Water is available for the rescue by providing the essential minerals and trace elements the body requires! Additionally, Karlovy Vary Healing Mineral Water helps to detoxify the body, reduce the amount of nucleotides and eliminate parasites.

Before discovering insulin, Karlovy Vary Healing Mineral Water was the only treatment that helped European patients with “sweet urine disease.”

This water also possesses some antibacterial properties. The KVHMW is a kind of blood cleanser in chronic infections.

Karlovy Vary water’s unique property has been proven: the historical fact states – the plague of 1713 raged all over the Czech lands, except Karlovy Vary.

Karlovy Vary Healing Mineral Water is not a panacea for all diseases, but it can be an extraordinarily useful complementary healing tool for many chronic conditions.

The authors of this book have more than combined 45 years of clinical experience and research of KVHMW. They discovered that one of the critical healing factors of this water is that it is the natural alkalizing agent. Giving the body possibility to restore the correct acid – alkaline balance is the key for alkaline glands such as the liver and pancreas to function normally, thus, promoting proper function of the gastrointestinal tract and

whole body. To understand, how the KVHMMW works, the authors return to the topic of acid – alkaline balance.

b. Acid – Alkaline Balance

The acid–alkaline balance is a key factor in the health and functioning of the body. Optimal health depends on the body's ability to maintain a slightly alkaline state.

Whether a substance is alkaline or acidic is determined by its pH (potential Hydrogen). The pH is measured on a scale from 0.00 to 14.00. Pure water has a pH close to neutral or 7.00. A ranking above 7.00 indicates that a substance is alkaline and below 7.00 is acidic. Blood is normally slightly alkaline with a pH range of 7.35 to 7.45.

The constancy of the blood pH is fundamental to the body's ability to maintain a relatively unchanging internal environment. Its importance is illustrated by the fact that a person cannot survive if the blood's pH drops below 7.00 or rises above 8.00. For example, blood with a pH of 6.95, which is only slightly acidic, can lead to coma and death.

Many bodily functions are involved in the regulation of the acid–alkaline balance, including respiration, excretion, digestion and cellular metabolism. Our pH regulating systems include the alkaline minerals, such as sodium, potassium, calcium and magnesium both inside and outside the cells. There are large amounts of minerals stored within our bones. We also have a buffer system in the blood that helps to keep its pH constant. Fortunately, this buffer is present in all the fluids of the body and plays a vital role in maintaining the normal acid–alkaline balance.

The bicarbonate buffer is extremely important, consists of a mixture of carbonic acid and sodium bicarbonate in the same solution, and is present in KVHMW.

The great alkaline reserve is the body's bank account. The body can call upon it anytime to release alkaline elements for the neutralization of acid. However, there is not an endless supply of minerals and bicarbonate ions available to neutralize the damaged acid-alkaline balance. The alkaline reserve is limited and is only a back-up system to protect from poisoning yourself with too much acid-forming food. When this alkaline reserve is depleted, the body sickens and death follows.

Acidosis is a condition in which the blood has too much acid, resulting in a decrease of the blood pH. Alkalosis is a condition in which the blood has too much base, resulting in an increase of the blood pH.

We live and die at the cellular level. As each cell performs its task of respiration, it secretes acidic metabolic wastes. These wastes are the end products of cellular metabolism and must not be allowed to build up. The body goes to great lengths to neutralize and detoxify these acids before they act as poisons and change the environment of the cell.

Over- acidity is very common today and can become a dangerous condition that weakens all body systems. This condition forces the body to borrow alkaline minerals, including calcium, sodium, potassium and magnesium from vital organs, muscles and bones to neutralize acid and remove it from the body. Over-acidity can go undetected for years and cause serious damage. When the body's alkaline reserves are depleted due to neutralizing of excess acids, the body cannot resist disease.

There is a group of health professionals, medical doctors, naturopaths and researchers who strongly believe that most diseases are caused by self-poisoning due to acid accumulation in the body.

Dr. Theodore A. Baroody writes in his book, *Alkalize or Die*, “The countless names of illnesses do not really matter. What does matter is that they all come from the same root cause...too much tissue acid waste in the body!”[329]

c. What causes the body to be acidic?

Metabolic acidosis is more common in our society primarily due to the Standard American Diet. This diet is too high in acid-producing foods like meat, white flour, sugar, alcohol, coffee and soft drinks and extremely low in alkaline-producing foods like fresh vegetables. Infection, smoking, stress and a sedentary lifestyle tend to make the body more acidic. Furthermore, the dietary content of trace elements also affects the acid–alkaline balance.

When alkaline reserves, such as minerals and bicarbonate buffer are depleted, the body neutralizes the acidity with its own alkaline minerals. It takes minerals from bones and muscles causing osteoporosis, as well as depression and headaches. Sacrificing your bones and muscles to compensate for acidosis is like robbing Peter (the body tissues) to pay Paul (the blood).

Susan M. Lark, MD and James A. Richards, MBA in their book, *The Chemistry of Success: Secrets of Peak Performance* [330] offer treatment options for restoring the acid–alkaline balance. Their program includes:

- Eating an alkaline diet (vegetables, fruits, juices, beans, nuts, sprouted seeds)
- Restoring the alkaline mineral reserves of cells, tissues, bones and blood

- Using alkalizing agents
- Reducing stress on the buffer system and organs of elimination

They write, “It is difficult if not impossible to replenish our mineral reserves through diet alone. The use of mineral supplements to rebuild our reserves is essential once we reach our forties and fifties. The use of supplemental minerals will allow overly acidic individuals to build up their reserves much more rapidly. In addition, our modern diet is so deficient in many of the essential major and trace minerals that it is virtually impossible to take in adequate amounts of them through food alone”.

Fortunately, there is a natural mineral supplement that can restore the body's alkaline mineral reserves and supply the body with life essential minerals and trace elements promoting digestion and eliminating harmful, acidic compounds. This supplement is the Karlovy Vary Healing Mineral Water (KVHMW). The water also increases the alkaline reserve, especially the main bicarbonate buffer of blood.

KVHMW is a well-researched, time proven, well balanced, and safe mineral supplement that has helped millions of Europeans restore their acid–alkaline balance and their health.

The alkaline effect of KVHMW is mild, slow and depends on the quantity of drinking water. The maximum effect occurs in 3 weeks. At that time, the pH of urine and blood may normalize and remain stable throughout the healing period.

Another interesting fact is that many minerals of KVHMW, such as sodium, potassium, magnesium and bicarbonate promote a normal, slightly alkaline environment in the body.

The diagnosis of acidosis generally requires the measurement of blood pH, alkaline reserve and concentration of carbon dioxide in a sample of arterial blood, but there is a simple and fairly accurate way to evaluate your

metabolic status by checking saliva and urine pH. If you are always fatigued, run out of breath easily, sigh frequently, experience muscle pain and cramp after walking short distances, or often feel like you cannot get enough air, you are probably too acidic. When people are highly acidic, their tissue levels of oxygen are so depleted that they have difficulty holding their breath for more than 20 seconds.

d. Alkalize For Health

You can check the pH of your body by testing your saliva and urine pH using pH litmus paper. The highest quality pH litmus paper shows distinct color changes in 0.2 increments. This is essential for an accurate analysis.

Clinical research has shown that saliva and urine pH can show how healthy you really are. You can check your pH levels at home with pH litmus paper, available as *Biotherapy's pH Balance Kit*. With this kit, you can see how your pH levels fluctuate and how KVHMW can normalize them.

The saliva and urine pH should be checked first thing in the morning and just before going to sleep at night. Since you fast through the night, the morning saliva and urine pH show acidity of the body. Evening saliva and urine pH show how your diet and lifestyle influence your inner metabolism and how well your buffer systems will tolerate the changing pH.

The saliva and urine pH offer a window through which you can see the overall pH balance in your body. Even if you usually feel fine, if your diet consists mostly of meat, pasta, refined sugars, convenience foods, starches, coffee, soft drinks; or you are constantly under stress, do not exercise enough, smoke, or drink alcohol, your saliva and urine pH will probably register as low as 5.0-6.0 on the pH scale.

What do these pH levels actually mean?

A scale of 5.5-6.0 (litmus pH paper is yellow) means that you have a strong acidosis condition and your health is poor. Figuratively, this range shows that your body is rotting and rusting. Acidity breaks down body tissues. It is created by metabolic, dietary and environmental waste that has a very negative influence on mitochondria function, hormone receptor sites, oxygen delivery and enzyme activities.

If the acidic environment is left unregulated, it will eventually result in abnormal cell growth. Terminal cancer patients usually have acidic saliva, as do anxious and depressed adults, hyperactive children, rebellious or delinquent adolescents and individuals who crave alcohol, use drugs, smoke, or consume sugar, soft drinks and coffee. Urine pH in those individuals commonly exhibits levels of 5.5 or less.

The acidic pH will greatly disrupt the body's mineral balance. For example, the body will take calcium from the bones and muscles to neutralize the acid environment, and thus increase your odds for osteoporosis. Over-acidity and overgrowth of microbes, fungi, viruses, and parasites are inextricably linked. Overgrowth of microorganisms, in turn, creates more acidic waste products that further pollute the body.

To correct this condition, it is very important to maintain a diet of alkaline foods (nonsweet fruits and vegetables), alleviate stress, exercise regularly and undergo a detoxification program with colon hydrotherapy and restoration of friendly intestinal flora. Additionally, herbal medicine and proper nutritional supplementation with vitamins, antioxidants, enzymes,

and an alkalizer and mineral supplement, such as Karlovy Vary Healing Mineral Water will support the health and harmony of the body.

A scale of 6.0-6.6 (litmus pH paper is blue-green) means that you have a mild acidity and your health is abnormal. In this range, many disorders develop. Improvement comes with a proper nutritional diet, a detoxification program, stress alleviation and regular exercise. KVHMW can balance normal pH levels because of its mineral and micro element content and ability to restore the blood alkaline reserve.

A scale of 6.6-7.2 (litmus pH paper is blue) means that you are in the healthy range. The body is usually strong and is capable of defending itself against common illnesses associated with an average lifestyle. To maintain this condition, it is very important to control body acidity by a healthy diet, physical activity, stress reduction, colon hydrotherapy and drinking Karlovy Vary Healing Mineral Water.

By the experience of the authors, the ideal result is that alkalinity can be achieved by a combination of drinking KVHMW with a magnesium/potassium supplement such as *Biotherapy Cellular Magnesium-Potassium*.

How much KVHMW, one should drink for the correct acid-alkaline balance, using the morning and evening saliva and urine pH readings?

Four readings are taken daily: two for urine pH and two for saliva pH. Follow the instructions that accompany the category that your lowest reading falls under: strongly acidic (5.5-6.0), mildly acidic (6.0-6.6) or healthy (6.6-

7.2). So test yourself to see where you are right now, and then retest, keeping weekly charts on your progress.

Check saliva and urine pH when you first wake up in the morning and when you are getting ready to go to bed at night. Record the data in the chart.

The optimal or normal pH ranges for saliva and urine are 6.6-7.2

If the **lowest** of the four daily pH readings is in the range of 5.5-6.0, you are highly acidic and need to take the following corrective action: prepare KVHMW by dissolving one teaspoon of genuine Karlovy Vary thermal spring salt in 2 cups of warm water. Add 2 more cups of any unflavored and unsweetened carbonated water (e.g. Seltzer or Club Soda). Drink 2 cups of the healing mineral water in small sips on an empty stomach in the morning. You may have breakfast 30-45 minutes after drinking. Repeat this procedure twice more, 30-45 minutes before lunch and dinner. Continue until you see changes in the pH readings in the morning and/or in the evening.

If the **lowest** of the four daily pH readings is in the range of 6.0-6.6, you are mildly acidic and need to take the following corrective action: prepare KVHMW as described above and drink the water twice daily in the morning and evening on an empty stomach, 30-45 minutes before meals. Observe the changes in saliva and urine pH.

If the **lowest** of the four daily pH readings is in the range of 6.6-7.2, you are in the healthy range, and need to take the following maintenance action: prepare 4 cups of KVHMW by dissolving one teaspoon in 2 cups of warm water and 2 cups of sparkling water, as detailed above. Drink 1-1.5 cups, 30-45 minutes before meals. Keep checking the saliva and urine pH daily and record the results.

If your **lowest** saliva and urine pH readings are moving into the normal range, drink KVHMW for 3 more weeks to make sure that your alkaline reserve is sufficient. Continue to monitor your saliva and urine pH at least once a week to confirm your acid-alkaline balance is normal. If you observe shifting in the pH, take corrective measures with KVHMW.

You can drink KVHMW for cleansing and purification 3-4 times a year. Use the water for 20 days; pause for three months and then repeat the course.

Recommended Daily KVHMW Intake for Maintaining Normal Acid-Alkaline Balance

Whole Body Acidity----- Saliva/Urine pH-- Genuine Karlovy Vary Thermal Spring Salt

Strongly Acidic

Health is poor -----**5.5-6.0 (Yellow)** ----- **15** grams (3 teaspoons)

Mildly Acidic

Developing Health Disorders--**6.0-6.6 (Blue-Green)** ----- **10** grams (2 teaspoons)

Healthy Range-----**6.6-7.2 (Blue)** ----- **5** grams (1 teaspoon)

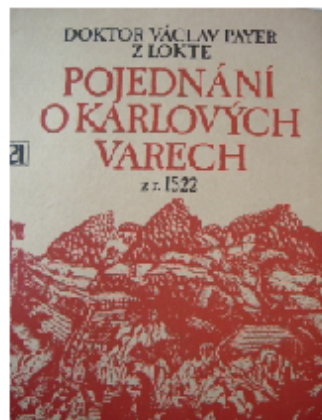
Health practitioners who work with nutritional programs to restore the acid-alkaline balance often find that highly acidic individuals may need to use KVHMW on a regular basis for months, and even several years. In order to offset the over-acidity that develops as part of the normal aging process, an individual (particularly, past mid-life) may have to continue a program for a prolonged period of time or even indefinitely.

e. Karlovy Vary Healing Mineral Water as a Healing Agent

For individuals with a medical background

Almost all cultures in the world have had traditions of healing springs, and Europe and Asia continue with their healing traditions today. Drinking mineral water is very beneficial for healing. Although scientific journals, medical literature, and practical knowledge from medical professionals around the world demonstrate the effectiveness of balneotherapy on physical health, many people also use the mineral springs for mental and emotional well-being.

Karlovy Vary Healing Mineral Water is the oldest researched mineral supplement in the world



In 1522, the first scientific, medical book was published in which a regimen of drinking water of the spring was recommended for constipation. Since then, hundreds of clinical texts and articles have been published describing the positive effects of the water on both animals and humans. Unfortunately,

most of them were published in Czech, German and Russian; thus, there are unknown by the American medical establishment.

Drinking healing mineral water for Health and Wellness has a long tradition in Europe. Yet despite its popularity among people in Europe, this healing is still unknown in the United States and Canada.

Before authors will focus on the therapeutic action of Karlovy Vary Healing Mineral Water, they have to mention courteously the hundreds of European doctors that proved the actions by enormous research, books, articles and clinical evidence. There is no healing remedy or therapeutic agent in the world such as KVHMW with almost 500 years of research and practical use.

It is difficult to imagine that the first book about using KVHMW for constipation was written by Doctor Vaclav Payer in 1522. From the 18th century until now, this healing mineral water was subject to extensive physiological research in experiments on animals and healthy volunteers and clinical studies and surveillance on millions of patients.

The Karlovy Vary branch of Prague Medical University opened in 1956, to focus on study of mineral water. One of the famous investigators was Professor Jaroslav Benda, MD, PhD, who published more than 35 articles about KVHMW and the book *“Karlovarsky Mlynsky Pramen”* in Czech and German. In an interview, with author (Felix Melamed) in 2004, Professor Jaroslav Benda who was the prominent researcher of the healing action of the Karlovy Vary mineral water in 60s, had tears, and said that he was happy that other people in other countries to continue the long tradition of European doctors. This mineral water, he said, has potential for treatment many diseases.

Many medical doctors practiced in the various hotel-spas in the Karlovy Vary. They prescribed special therapeutic regimes for patients, who visited Karlovy Vary for treatment. One of them is doctor Pavel Solc, MD who published the comprehensive medical book in Czech about clinical use of

KVHMW. The name of his book translated in English is “*Treatment with Karlovy Vary water in the 20th and 21st centuries*”. [224]

There were several clinical conventions where hundreds of medical doctors mainly from Germany, Russia and the Czech Republic exchanged their experiences of using KVHMW in gastroenterology, endocrinology, nephrology, pulmonology, dermatology and other medical fields.

The chief medical doctor with tons of clinical experience that worked for decades in Karlovy Vary was Yaroslav Dolina, MD.

In an interview with autor (PM) in Karlovy Vary in 2007, Dr. Dolina emphasized that the healing action of KVHMW depended upon the mineral content, water by itself and time of its consumption. By his opinion, this water works better if people drink it and then walk, as recommended by Karlovy Vary doctors for hundreds of years.

Most of the doctors treat patients in Karlovy Vary for 3 – 4 weeks; this is an average time of a typical vacation. In many cases, it is not enough for a steady result. The authors have used healing mineral water prepared from Genuine Karlovy Vary Thermal Spring Salt for home healing or for maintenance of the healing of the thermal spring an average of 6 weeks. However, some situations require 6 or more months. 90% of individuals who started drinking KVHMW for healing purposes, have acidic shifts of their saliva and urine pH that indirectly show chronic metabolic acidosis. The authors together with biochemist Genrikh Sivorinovsky, PhD developed a strategy for normalizing the body's acid – alkaline balance. Today, the authors of this book have altogether more than 45 years of duration of employing KVHMW and are very pleased to continue centuries-old healing traditions of using healing mineral water in Europe.

For What Conditions is Karlovy Vary Healing Mineral Water Used in Europe?

Chronic Liver Disorders

Hepatitis B & C

Alcoholic Liver Disorder

Fatty Liver

Early Cirrhosis

Gallbladder Disorders

Gallbladder Stones

Gallbladder Inflammation

Postcholecystectomy Syndrome (condition after gallbladder removal)

Sphincter of Oddi Dysfunction

Biliary Dyskinesia

Pancreas Disorders

Chronic Pancreatitis

Gastrointestinal Conditions

Heartburn

Gastro Esophageal Reflux Disease

Functional Dyspepsia

Hiatal Hernia

Peptic Ulcers (Stomach, Duodenum)

IBS

Chronic Constipation

Crohn's Disease

Urogenital Disorders

Bladder Infections

Kidney Stones

Kidney Disorders

Chronic Prostatitis

Metabolic Conditions

Diabetes

Fatty Liver

High Blood Cholesterol/Lipids

Osteoporosis

Weight Management/Obesity

Gout

In Europe, mineral water prepared from the Karlovy Vary thermal spring salt has been successful in healing conditions such as chronic hepatitis, fatty liver, Metabolic Syndrome, early stages of cirrhosis, chronic pancreatitis, esophageal acid reflux, diverticulosis, constipation, Crohn's disease, parasites, etc.



100 years ago, this healing mineral water was the only possible way to treat diabetes, obesity, gout, stomach ulcers, liver diseases, and gallbladder and kidney stones. Today, it remains a very important complementary approach for healing these disorders.

Mineral water prepared from the Karlovy Vary Thermal Spring Salt is a safe, natural alkalizer. The alkaline effect of water is mild and slow and depends on the amount of drinking water.

f. Physiological and Healing Actions of KVHMW

According to many European longitudinal studies, the solution prepared at home with Genuine Karlovy Vary Thermal Spring Salt is physiologically identical to the actions of the bicarbonate-sulfate-chloride-sodium mineral water at the internationally acclaimed spa and resort.[222, 225, 283, 287, 303, 304, 305, 306]

KVHMW acts both directly and indirectly. Directly, the water contacts the mucous membranes of the gastrointestinal tract. Indirectly, water travels two pathways.

First, the water flows into the duodenum causing the release of digestive hormones. These hormones, through the blood, influence and stimulate functioning of the liver, gallbladder and pancreas. [222, 307]

Second, the essential minerals and trace elements of water are absorbed into the bloodstream and transported into the cells and tissues.

The influence of volume, temperature, concentration, drinking frequency and times of food intake determine the direct and indirect effects.

The main actions of KVHMW, which are scientifically confirmed by medical literature (1963- 2000) include:

1. Promoting rehydration and supplying the body with mineral ions. The water's actions depend on concentration levels, daily amounts consumed,

temperature, taking on an empty stomach and other factors[224, 225]

2. Decreasing acidity levels in the stomach (immediately after drinking the KVHMW) and digesting ions in the stomach. The water prepares the stomach for food digestion[277, 278]
3. Promoting secretion of gastric juices to enhance stomach digestion, after short neutralizing stomach acids[278, 279, 280, 281]
4. Promoting peristaltic movement in the GI tract[278, 282]
5. Digesting electrolytes through the stomach mucous membrane (while still in the stomach). Following digestion, this healing mineral water has mild alkaline actions on the urine[283, 284]
6. Collecting magnesium ions in the body (if there is a deficiency of magnesium) and not allowing them to be eliminated by urine[224]
7. Through sulfates, improving detoxification of the liver and increasing the amount of sulfur in the bile[224, 285]
8. Promoting the manufacture of glycogen deposits that demonstrate improved liver function [222, 278]
9. Helping to decrease high levels of bilirubin in the blood[224, 225, 286]
10. Indirectly stimulating the production and elimination of bile and pancreatic juices, promoting digestion[278, 287, 288, 289, 290]
11. Decreasing high levels of bile acids in the liver[224, 290]
12. Influencing glucose and carbohydrate metabolism by stimulating insulin production and increasing sensitivity in the tissues and cells to insulin[222, 225, 291, 292, 293]
13. Decreasing the amount of some liver enzymes in the blood and normalizing enzyme levels in liver disorders[224]
14. Along with a proper diet and exercise, decreasing the levels of cholesterol and lipids in the blood[222, 224, 283, 294, 295]
15. Having many of its effects depending on direct actions of mineral ions on tissues and cells [278, 283, 284]
16. Having a positive influence on inflammation and immune responses of the body[223, 296]

17. Having positive effects on intestinal flora and decreasing the amount of pathogenic flora and parasites[224, 297, 298, 299, 300]
 18. Improving the function of the entire gastrointestinal tract (when drinking before food consumption)[225, 278, 301]
 19. Enhancing mild cleansing reactions[224, 278]
 20. Normalizing the acid-alkaline balance and improving metabolism of minerals in the bone [278]
 21. Promoting urination and increasing urine pH levels and H⁺ ion concentration[278]
- This is beneficial for urological disorders such as oxalaturia[284, 302]
22. Not being used during the final stages of heart and kidney failure[224, 225]

KVHMW is a unique mineral supplement because:

- *It is ecologically completely pure, containing no pollution from the earth's surface such as chemicals, pesticides, or microorganisms
- *It has more than 40 essential minerals and trace minerals
- *Most of the ionic content is close to blood ionic content. During World War II, it was used as a plasma-substitute mineral intravenous solution
- *The electrolytes are in easily absorptive, ionic form
- *It is a non-toxic substance. Water has been used in large amounts as an antidote by itself in case of poison for more than 200 years by causing diarrhea, increasing urination and promoting poison elimination from the body
- *It is easy to prepare healing mineral water from genuine Karlovy Vary Thermal Spring salt at home

How Does Karlovy Vary Healing Mineral Water Work So Effectively?

The requirements for optimum health are proper digestion, assimilation of nutrients and proper elimination. KVHMW promotes proper digestion by producing digestive juices, increasing motility of the gastrointestinal tract, and improving the absorption of nutrients from food and supplements. It also supports the growth of friendly bacteria and keeps harmful bacteria and yeast populations in balance, in the intestines.

KVHMW supports the elimination organs, such as the liver, kidneys, and colon to remove toxins and waste from the body. It also reduces reabsorption of toxins from the colon into the bloodstream, and helps remove infections and parasites that can cause numerous health problems.

KVHMW influences the whole body: cells, tissues and organs. It detoxifies the body and improves function of the liver (the “chemical factory”), pancreas, colon, and kidneys. It works as a universal janitor, to remove parasites, fungus, yeast, unhealthy microorganisms, and infections from the gastrointestinal tract. In supplying the body with essential minerals and trace elements, it improves function of the entire gastrointestinal tract and promotes digestion of proteins, lipids, carbohydrates, vitamins and minerals from food.

Drinking KVHMW promotes a normal acid-alkaline balance due to its mineral and bicarbonate content.

To summarize, Karlovy Vary Healing Mineral Water has the following main functions:

- Restoring the balance of over 40 essential elements deficient in the body
- Removing metabolic waste and helping to free the body from toxins and poisons
- Normalizing the acid-alkaline balance

- Promoting proper digestion and absorption of essential nutrients throughout the gastrointestinal tract
- Relieving pain, cramps, gas, indigestion, diarrhea and constipation
- Supporting liver function and helping to reverse the damage
- Possessing strong anti-inflammatory properties on the GI-tract
- Improving function of the entire digestive system
- Healing damaged walls of the intestines
- Killing parasites and their eggs
- Restoring friendly intestinal flora
- Improving sugar and fat metabolism

Benefits of Drinking Karlovy Vary Healing Mineral Water

Summarizing of the experimental and clinical data.

The Karlovy Vary Healing Mineral water improves the function of the following organs and systems of the human body with the following actions:

LIVER:

1. Supplying essential minerals, trace elements, electrolytes and bicarbonates
2. Promoting microcirculation of blood, lymph and bile
3. Amplifying the detoxification mechanism
4. Enhancing anti-inflammation, anti-parasitic and anti-viral abilities
5. Normalizing the glycogen deposits
6. Increasing the production of bile and bile fluidity

GALLBLADDER:

1. Promoting secretion and elimination of bile, thus removing lipid soluble, toxic substances such as bile acids, bilirubin (the main pigment found in bile) and cholesterol. Adequate bile flow is critical to gastrointestinal health
2. Promoting gentle peristaltic movement of bile ducts and delicate gall bladder smooth, muscular contraction to flush bile into the duodenum
3. Increasing peristaltic moving of bile ducts while simultaneously opening the sphincter of Oddi (valve between bile duct and duodenum)
4. Normalizing alkaline quality of bile
5. Making bile less “aggressive” and diminishing pathological bile refluxes

STOMACH:

1. Normalizing production of hydrochloric acid and improving proteins, vitamins and mineral digestion
2. Promoting healing of the gastric mucus membranes
3. Improving the tone of the esophageal and pyloric sphincters
4. Promoting proper evacuation of food
5. Alleviating the inflammation of gastric tissue and relieving gas and heartburn

PANCREAS:

1. Supplying essential minerals and microelements for the manufacturing of digestive enzymes

2. Supplying bicarbonates, the main ingredient of pancreatic juices (pancreatic enzymes can work only in an alkaline environment)
3. Increasing secretion of pancreatic juices
4. Increasing digestive activity of pancreatic enzymes
5. Neutralizing high levels of gastric acid
5. Opening the Sphincter of Oddi (this decreases pressure in the system, promotes secretion and elimination of pancreatic juices and decreases congestion)

COLON:

1. Easing stool movement by making the stool softer and moist due to colon water retention, decreasing of “bowel transit time”
2. Improving the abundance of friendly intestinal flora, which in turn restores colon health
3. Stimulating motility of the small and large intestines and improving the gastro - colon reflex
4. Replacing the loss of water, electrolytes, trace elements and bicarbonates due to diarrhea
5. Relieving of pain, cramps, gas, indigestion, diarrhea and constipation
6. Performing anti-inflammatory and anti-parasitic actions
7. Removing the toxins, parasites and Candida by enhancing the body natural cleansing mechanisms, thus, detoxifying the body

KIDNEYS:

1. Increasing urine production and elevating urine pH

2. Increasing elimination of water-soluble toxins thus, detoxifying the body
3. Decreasing precipitation of the kidney stones
4. Flushing out stones and microorganisms

METABOLISM:

1. Normalizing acid-alkaline, mineral and trace element balance in the tissues and organs
2. Decreasing metabolic acidosis by increasing the bicarbonate buffer system (alkaline capacity in the blood) and the pH of urine
3. Assisting in normalizing blood sugar, cholesterol and lipid levels
4. Normalizing glucose and carbohydrate metabolism by stimulating insulin production and increasing sensitivity of the cells to insulin
5. Promoting weight loss
6. Improving uric acid metabolism

HEALTH MAINTENANCE

Research and clinical evidence have shown that Karlovy Vary Healing Mineral Water is beneficial for:

- > “Baby Boomers” who want to look and feel younger
- > People with symptoms of premature aging
- > People with smoking, alcohol and drug addictions during withdrawal and hangover
- > People with family history conditions, such as colon cancer, breast cancer, diabetes, heart disease, thyroid dysfunction, allergies, obesity, memory loss, depression, osteoporosis and digestive disorders
- > People with vegetarian lifestyles
- > People with possible infections contracted from food during travels

- > Before and after fasting
- > Minimizing the effects of the Western Diet (refined sugars, saturated fats, and processed foods)
- > After over-consumption of food at parties and holidays

The water is recommended for healthy individuals for body cleansing and to help avoid disorders. It is also used in cosmetics, bath therapy, colon hydrotherapy, rinsing of the mouth, nose and throat and inhalation.

Cleansing and Healing Procedures

Suggested general cleansing and healing procedures are as follows, unless otherwise recommended by your healthcare professional:

◁> **Liver:** Take 1/2 cup of warm 0.5% solution 3 times daily, 30-45 minutes before meals for the first week. During the second week, gradually increase to 1.5 cups three times daily for 6-8 weeks. After completion of this program, continue drinking 1-2 cups every morning on an empty stomach. It is recommended to take the first cup daily while lying in bed on your right side and applying a warm cover to the liver area. This program can be repeated 3 times a year.

◁> **Gallbladder:** Take 2 cups of warm 0.5% solution 3 times daily, 30-45 minutes before meals for 6-8 weeks. After completing this program, continue drinking 2 cups every morning on an empty stomach. This program can be repeated 3 times a year.

◁▷ **Stomach:** Take 1.5 cups of warm 0.5% solution 3 times daily, at least 45 minutes before meals for 6-8 weeks. The program can be repeated 3 times a year.

◁▷ **Intestines:** Take 1.5-2 cups of 1.0% solution, at room temperature, 3 times daily at least 45 minutes before meals for 6-8 weeks. It is recommended to walk for 30 minutes after taking the first 2 cups in the morning on an empty stomach. After the completion of this program, continue drinking 1-2 cups every morning.

◁▷ **Pancreas:** Take 1 cup of warm 0.5% solution 3 times daily, at least 45 minutes before meals for 1 week. Then, take 2 cups in the morning on an empty stomach, 1 cup at mid-day, and 2 cups prior to the last meal for 6-8 weeks. After completing this program, continue drinking 2 cups in the morning on an empty stomach.

◁▷ **Prostate and the Urinary System:** Take 1.5 cups of 0.5% solution at room temperature, 3 times daily, 30 minutes before meals for 6-8 weeks. After completing this program, continue drinking 1.5 cups every morning on an empty stomach.

◁▷ **Whole Body Cleansing:** Take 1-1.5 cups of 0.5% solution at room temperature, 3 times daily, 30-45 minutes before meals for 3-4 weeks.

◁▷ **Metabolism:** Take 1.5-2 cups of the 0.5% or 1 % solutions at room temperature, 3 times daily at least 45 minutes before meals for 6-8 weeks. This program may be repeated up to 4 times a year.

This book is dedicated to pancreatic health therefore, it is important to focus on the healing powers of the KVHMMW on pancreatic disorders.

- May we naturally increase production and elimination of the pancreatic enzymes?
- May we naturally alleviate bloating, gas and abdominal cramps?
- May we naturally decrease pancreas congestion and open the gates for easy releasing of pancreatic juice and congested “aggressive” bile with gallbladder stones?
- May we naturally decrease bile refluxes (wrong way traffic) into the stomach and esophagus or into the pancreas?
- May we naturally decrease infections and inflammation of the pancreas and related pain, diarrhea and fatigue?
- May we naturally promote the proper balance of microflora in the intestines?
- May we naturally heal chronic pancreatitis?
- May we naturally increase insulin sensitivity of the cells?

European doctors answer all of these questions positively.

g. Scientific Explanations on How the Karlovy Vary Healing Mineral Water Helps Pancreatic Disorders

KVHMMW is one of the mineral supplements called “mineral medicine,” equivalent of mineral replacement therapy. Minerals have been used for medical purposes for thousands of years. Nobody is surprised with using iodine for the thyroid, zinc for prostate problems, magnesium and potassium for the heart and vessels, lithium for moods and iron for anemia.

No wonder, that alkaline digestive glands such as the pancreas and liver require abundant amounts of alkaline minerals and bicarbonate for proper function, especially for the pandemic of metabolic acidosis.

Europeans with digestive problems, poor functioning of the pancreas or chronic pancreatitis have been drinking Karlovy Vary Healing Mineral Water (KVHMW) for hundreds of years. Virtually unknown in North America, this unique mineral supplement contains a variety of essential minerals and trace elements in an easily digestible form.

Czech and other European scientists found that this water could promote secretion and increase the activity of pancreatic enzymes.[225, 308]

Researches proved that enzyme activity is increased in healthy volunteers, people with chronic pancreatitis and patients after gallbladder removal. This was also confirmed in experiments on animals with fistula (tubes) in the pancreatic ducts. In all these studies, KVHMW increased not only the amount of pancreatic juices, but also the activity of pancreatic enzymes. This action continues for lengthy periods when drinking KVHMW.[222, 225, 309, 310]

European scientists and doctors confirm the following positive effects of the KVHMW on the pancreas and pancreatic digestive enzymes including:

- *Supplying the pancreas with essential minerals and trace elements for manufacturing digestive enzymes. [225] Many enzymes require the presence of metal ions for activity. The metal cofactors most frequently used as enzyme activators are magnesium, manganese, zinc, potassium, iron, copper, calcium, and cobalt

- * Supplying the pancreas with bicarbonates, the main ingredient of pancreatic juices[225]

- * Increasing secretion of pancreatic juices[301]
- * Increasing digestive activity of pancreatic enzymes[308]
- * Promoting the manufacture and release of digestive hormones in the duodenum and regulating the digestive process in the gastrointestinal tract and liver.[225] The digestive hormones signal the pancreas the amount of enzymes and bicarbonate that are needed to digest proteins, sugars, starches, and lipids arriving from the stomach
- * Neutralizing high levels of gastric acid[278, 279, 280, 281]
- * Promoting secretion of bile by the liver cells and elimination of bile throughout the hepatic and common bile ducts and gallbladder[225, 287, 310]
- * Opening the Sphincter of Oddi, decreasing pressure in the system, promoting secretion and elimination of pancreatic juices and decreasing inflammation and congestion in the pancreas[312]

Chronic Pancreatitis

KVHMW has been used increasingly throughout Europe in the treatment of chronic pancreatitis.

Symptoms of the final stage of chronic pancreatitis (pancreatic failure) generally fall into two patterns. In one pattern, persistent mid-abdominal pain is present. With the second pattern, as the condition progresses, cells that secrete digestive enzymes are slowly destroyed. Digestive, pancreatic enzyme deficiency leads to malabsorption with weight loss and bulky, greasy, foul-smelling stools with oil droplets.

Solc, P. (2000) in his book "Karlovarska lazenska leba a medicina na prelomu 20. a 21. stoleti" described that patients with chronic pancreatitis or damaged pancreas after surgery had experienced clinical improvement, confirmed by ultrasonography and blood and stool tests. Drinking KVHMW alleviates dyspepsia, malabsorption and loss of fat with stool (steatorrhea). [224]

Researchers concluded that KVHMW could reduce the complications of Chronic Pancreatitis by:

- > Promoting the production of liquid bile, which eases bile elimination by the liver[287, 288, 308]
- > Decreasing inner pressure in the common bile and pancreatic ducts by restoring proper function of the Sphincter of Oddi[224, 287, 310, 312]
- > Decreasing congestion in the pancreas[225]
- > Promoting elimination of pancreatic juices[224]
- > Reducing inflammation and microbials[296]
- > Restoring friendly intestinal flora[298, 299, 300]
- > Replenishing essential minerals and trace elements[311]
- > Normalizing the acid-alkaline balance for proper secretion of alkaline pancreatic juices[224, 225]

Chronic Pancreatitis is extremely difficult to treat. In the clinical experience of the authors, using healing mineral water prepared from the genuine Karlovy Vary spring salt can significantly improve the condition of individuals in the *acidic pancreas and bile* and *pancreatic deficiency* stages and prolong the life during the pancreatic failure stage.

h. Karlovy Vary Healing Mineral Water Preparation

With the help of technology, genuine Karlovy Vary spring salt can now be produced by evaporating mineral waters from the hot spring. All that is needed to produce Karlovy Vary Healing Mineral Water for home healing is to dissolve the salt in warm water.

Preparation of Mineral Water Solutions

Dissolve the salt in the warm water (not boiling) to create solutions of 0.5% one teaspoon with 4 cups of water or 1% two teaspoons with 4 cups of water. To improve the taste and avoid formation of sodium carbonate sediments, mix regular water with some amount of carbonated water (seltzer or club soda). If necessary, reheat the solution when ready to drink.

Concentration

Preparation of Mineral Water Solutions

0.5% Concentration

Water (Cups) -----	Salt (teaspoons) -----	Grams of Salt
2 -----	$\frac{1}{2}$ -----	2.5
4 -----	1 -----	5.0
6 -----	1-1/2 -----	7.5

1% Concentration

Water (Cups) -----	Salt (teaspoons) -----	Grams of Salt
2 -----	1 -----	5.0
4 -----	2 -----	10.0
6 -----	3 -----	15.0

Czech doctors determined that KVHMW prepared from genuine Karlovy Vary thermal spring salt is normally taken as a 0.5% solution. The water should be taken as 1% concentration for weight management and severe constipation.

Daily Amount

Intake can be as follows:

- **Small** (5 ml per 1 lb. body weight, less than 4 cups)
- **Medium** (8 ml per 1 lb. body weight, 4-6 cups)
- **Large** (10 ml per 1 lb. body weight, more than 6 cups)

People over the age of 70, usually begin with a small amount. Younger people can take a large amount for detoxification, anti-parasites, anti-Candida program, and severe cases of constipation. Typically, most situations require a medium intake.

Temperature

Hot, healing mineral water (similar to hot tea) should be used for stomach disorders and diarrhea. Warm water (similar to warm tea) should be used for liver, pancreatic, and intestinal disorders. Water at room temperature should be used for metabolic disorders, constipation, poor stool elimination, and whole body cleansing.

Food Consumption

The water should be taken at least 30-45 minutes before food consumption. For people after the age of 60 with low stomach acid levels, the water should be taken 20-30 minutes before eating.

Drinking Time

The speed at which the water is consumed can be slow or fast, depending on the condition. A slow speed should take 3-5 minutes per cup, with 5-10 minutes between cups. Slow timing is used for liver, stomach, gallbladder, pancreas and small intestine disorders. A fast speed should take 1-2 minutes per cup, with 3 minutes between cups. Fast timing is used for colon disorders and other conditions below the waist and whole body cleansing, as well.

Program Length

The Czech longitudinal studies concluded that it took a minimum of 4-6 weeks to start experience improvement and see positive test results. Following the initial program, a maintenance program is designed for each individual. The program depends on age, reaction to the initial program and existing conditions. The maintenance program normally should remain 2-2.5 months after the first 4-6 weeks. In many cases, it is recommended to repeat the program during the year.

Storage

The water can be stored in a nonmetallic covered container at room temperature for 3 days. For use as a warm solution, store in a thermos or make water warm.

The Safety Factor

KVHMW has been used safely for centuries. Studies reported in the medical literature show no severe adverse effects from the water or any cases of toxicity. During World War II, the water was even utilized as a mineral solution for intravenous infusion to replace blood (or plasma) lost and to maintain body fluids.

For hundreds of years, genuine Karlovy Vary thermal spring salt has been an antidote for acute food poisoning (bacterial or chemical). As an over-the-counter remedy in Europe, the large amount of 2-3% solution of the salt can keep poison from being absorbed in the gastrointestinal tract and promote fast elimination from the body. In case of eroded poison such as ammonia, strong acids and acetic acid, the KVHMW is not recommended.

About 70% of people, who come to the famous European health mineral spa in Karlovy Vary, are 50 years or older. The most feel very well following treatment. Sometimes after initially drinking KVHMW, patients experience an unpleasant reaction— spa reaction, but this can be a positive influence of the water on a chronic disease during the spa treatment. These are “cleansing reactions,” when the body starts ridding itself of toxins and patients are advised by Czech MD’s, to continue drinking KVHMW, but in smaller amounts.

Czech medical doctors do not recommend drinking KVHMW in severe conditions, including:

- > Terminally ill people in extremely poor conditions
- > People in the final stages of chronic heart, liver, or kidney failure with severe edema
- > Active phase of tuberculosis
- > Gastrointestinal bleeding
- > Acute diseases, except food poisoning
- > Severe, uncontrolled hypertension
- > Severe jaundice

KVHMW can cause mild side effects, such as loose stool or edema of the legs, especially at the beginning of the healing. However, hundreds of people with serious problems have used this natural mineral product without any unpleasant feelings. If you have any concerns, talk with your doctor or healthcare professional.

i. Synergistic Effects of KVHMW and Colon Hydrotherapy

The colon is the largest perpetrator of disease of any organ in the body. When the colon is clean and functioning normally, people experience better health and well-being. Colon hydrotherapy can be extremely helpful in removing impacted waste from the colon, relieving constipation and assisting a whole body cleansing program.

Colon hydrotherapy is most effective when used in conjunction with other complementary therapies, such as acupuncture, nutritional supplementation, healing foods, herbs, magnet therapy, manual therapy or massage, abdominal massage, physical therapy, deep relaxation, seeing a chiropractor and so on.

KVHMW increases and promotes the effectiveness of a colon hydrotherapy session, by eliminating cramps and spasms and making it more pleasant and helpful. Usually the client and the colon therapist are surprised at the large release during the session.

KVHMW works like a mild osmotic agent because some parts of mineral salts are poorly absorbed by the digestive tract. The salt, which stays in the gut, attracts water by osmosis. The water is not absorbed and remains in the intestines. Consequently, stool becomes more moist, softer and bulkier. The excess fluid also stretches the walls of the large intestine and stimulates the natural contractions of the intestine, making bulkier stools softer and easier to move. KVHMW prevents spasms and encourages natural peristalsis. It is recommended to drink one teaspoon of mineral salt in 2 cups of water at room temperature on an empty stomach before every colon hydrotherapy session.

KVHMW acts gently and not only is the safest way to promote regular bowel movements, but also is particularly effective in promoting the elimination during colon hydrotherapy. The effects depend on the concentration, quantity, temperature of the water and the body's pre-existing conditions. The cold (1%) solution promotes bowel movements. The warm (0.5%) solution can be very useful to normalize the conditions of the loose stool or diarrhea.

The beneficial actions of KVHMW on the colon during a colon hydrotherapy session are:

- Retaining the water in the colon to moisten and soften stool

- Stimulating natural contraction of the colon wall, maintaining regularity, decreasing straining and promoting less irritation of the large intestine
- Stimulating the pancreas and liver to secrete bile and pancreatic juice promoting food digestion and guts' peristaltic
- Replacing water, electrolytes and essential trace elements deficiency
- Promoting growth of friendly intestinal flora
- Soothing and promoting healing of the mucous membrane lining of the entire digestive tract
- Drawing out toxins, pathogens, parasites, Candida-yeast, etc

The combined healing effect of KVHMW with enemas and colon hydrotherapy has been known at health resorts and spas in Europe for more than 100 years. Czech medical doctors have recommended colon irrigation with KVHMW since 1893. For this purpose, 2-3 teaspoons of mineral salt are dissolved in 2 quarts of clean, warm water.

Irrigation with this mineral solution can have significant effects on the elimination during the colon hydrotherapy session in cases of a sluggish colon.

Irrigating the colon with warm KVHMW is useful for men with chronic prostatitis and Benign Prostate Hyperplasia (BPH) and for women with Pelvic Inflammatory Diseases (PID), menstrual disorders and infertility. This is because of the direct contact of the healing ingredients of the mineral water with the colon walls and their better absorption through the pelvic blood vessels.[224] Colon irrigation with KVHMW can have very beneficial effects for all anti-parasite and anti-Candida programs.

Drinking of KVHMW combined with colon hydrotherapy can help in various liver, pancreas, gastrointestinal and pelvic disorders. Together, they can also improve metabolic imbalances that connected to diabetes, obesity, boils, gout, high cholesterol, skin diseases and allergies. This combination usually decreases levels of inner toxicity and is recommended for healthy people.[224]

j. Genuine Karlovy Vary Thermal Spring Salt Content

Mineral Dietary Supplement

Natural Bicarbonate-Sulfate-Chloride-Sodium Salt

Serving Size: 5 Grams

Amount per One Serving -----% Daily Value

Sodium: 1,567.00 mg -----65.3%

Chlorides: 655.50 mg -----9.3%

Potassium: 56.00 mg ----- 1.6%

Copper: 0.007 mg ----- 0.35%

Iron: 0.04 mg----- 0.22%

Selenium: 0.00005 mg ----- 0.07%

Magnesium: 0.17 mg ----- 0.04%

Zinc: 0.004 mg ----- 0.03%

Manganese: 0.00004 mg ----- 0.02%

Calcium: 0.09 mg -----0.009%

Rubidium: 0.42 mg *

Cesium: 0.073 mg *

Cobalt: .0000005 mg *

Lithium: 1.86 mg *
Fluorides: 3.175 mg *
Bromides: 0.296 mg *
Sulphates: 1,390.50 mg *
Bicarbonates: 1,091.0 mg *
Carbonates: 172.50 mg *
Silicic Acid: 0.565 mg *
Trace Elements: < 1 mg *
Water Residue: < 1 mg *

* Daily Value not established

Store in cool, dry and dark place out of reach of children. Contains no artificial flavors or preservatives.

UBE ANALITICAL LABORATORIES

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LABORATORY CERTIFICATE

Biotherapy Inc.

2215 Post Street #1 San Francisco, CA 94115

Tel.: 415-409-3939

Fax: 415-409-3909

Attn: Peter Melamed

Report Date: 10/25/04

Report No.: 333239-2

Sample ID: Genuine Karlovy Vary (Carlsbad) Thermal Spring Salt

Sample Lot: 04/2003

Date Received: 10/22/04

Test ID: 0410040-2

Heavy Metal Panel:

Analyses	-----Claim	-----Method	-----Result
----------	------------	-------------	-------------

Ag (Silver)	-----N/A	-----ICP	-----ND*
-------------	----------	----------	----------

As (Arsenic) ----- N/A -----ICP -----ND
Bi (Bismuth) ----- N/A ----- ICP ----- ND
Cd (Cadmium) ----- N/A ----- ICP -----ND
Pb (Lead) ----- N/A -----ICP -----ND
Sb (Antimony) ----- N/A ----- ICP ----- ND
Sn (Tin) ----- N/A ----- ICP -----ND

*ND: Not-detected below detection limit (5PPM)

UBE ANALITICAL LABORATORIES

Danny Pang, Lab Mgr.

Resources

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Interesting facts at a glance:

Treatment with healing mineral water in Europe has 500 years of history

Since those early days, health mineral spa in Karlovy Vary, in the Czech Republic has flourished as a sacred place of healing and found recognition among health professionals and patients from all over the globe

European doctors understood that mineral content is a major healing factor of this water, and research was done to manufacture the salt from the evaporated thermal spring water in 1764

It made easy for people who could not travel to Karlovy Vary undergo or continue the healing at home

By dissolving the Genuine Karlovy Vary mineral salt in warm water, one can obtain the mineral water with similar healing properties to the water from the Karlovy Vary hot spring

KVHMW is a well-researched, time proven, well balanced, and safe mineral supplement that promotes a normal, slightly alkaline environment in the body

This action is especially beneficial because body's acidity is more common in our society primarily due to the Standard American Diet. This diet is too high in acid-producing foods like meat, white flour, sugar, alcohol, coffee and soft drinks and extremely low in alkaline-producing foods like fresh vegetables

Infection, smoking, stress and a sedentary lifestyle tend to make the body more acidic

The simple measurement of the saliva and urine pH at home offers a window, through which everyone can see the overall pH balance in his/her body

The optimal or normal pH ranges for saliva and urine are 6.6-7.2

In Europe, mineral water prepared from the Karlovy Vary thermal spring salt has been successful in healing conditions such as chronic hepatitis, fatty liver, early stages of cirrhosis, chronic pancreatitis, esophageal acid reflux, diverticulosis, constipation, Crohn's disease, Metabolic Syndrome, diabetes, parasites, etc

KVHMW acts both directly by contacting with mucous membranes of the gastrointestinal tract and indirectly by releasing digestive hormones and by essential minerals and trace elements containing in this water

European scientists and doctors confirm the following positive effects of the KVHMW on the pancreas and pancreatic digestive enzymes:

- 1. Supplying the pancreas with essential minerals and microelements for manufacturing digestive enzymes**

- 2. Supplying the pancreas with bicarbonates, the main ingredient of pancreatic juices**
- 3. Increasing secretion of pancreatic juices and digestive activity of pancreatic enzymes**
- 4. Neutralizing high levels of stomach acid**
- 5. Promoting secretion and elimination of bile**
- 6. Opening the Sphincter of Oddi, decreasing pressure in the pancreatic ducts system**
- 7. Promoting secretion and elimination of pancreatic juices**
- 8. Decreasing inflammation and congestion in the pancreas**

Many European researches and clinical evidences support drinking KVHMW in chronic pancreatitis

Studies reported in the medical literature show no serious adverse effects from the water or any cases of toxicity

KVHMW increases and promotes the effectiveness of a colon hydrotherapy session by eliminating cramps and spasms and making it more pleasant and helpful

Karlovy Vary Healing Mineral Water is safe and effective mineral supplement that has been used hundreds of years for treatment many gastrointestinal and metabolic disorders in Europe

Yet despite its popularity among people in Europe, this safe and effective mineral supplement is still unknown in the United States and Canada

All that one needs to do for drinking Karlovy Vary Healing Mineral Water (KVHMW) at home is to dissolve the Genuine Karlovy Vary Thermal Spring Salt in the water

Chapter 34-Acupuncture and Pancreas Disorders

For individuals lacking a medical background

Acupuncture is one of the oldest forms of known healings. More and more western doctors are becoming convinced of its value and are recommending its use in treating many medical conditions. Millions of people in China, Korea, Japan, as well as in Europe, Russia, Israel, Argentina, Cuba and many other countries have used this healing system for the last 40 years. In November 1997, a committee of experts at the U.S. National Institute of Medicine gave their medical endorsement to the use of acupuncture as a treatment for a variety of conditions, as well.

More than one million Americans are currently receiving acupuncture annually. Why? Because of acupuncture is a nondrug, natural and effective way to overall wellness. Acupuncture is the insertion of hair-thin needles into the body at specific points, thereby stimulating and activating the body's self-healing mechanisms.

Acupuncture is based on the concept of Qi (pronounced chee), the life energy that flows through us all. When Qi is flowing freely, we are healthy. When it is blocked by stress, inflammation, fatigue, poor diet, parasitic infections, external or inner toxicity and other disturbances, the result is discomfort or illness. Acupuncture restores the flow of Qi and returns balance by using needles to stimulate the points at which this energy flow is blocked.

a. The Effects of Acupuncture on the Digestive System

Clinical studies and experimental research show positive results obtained from acupuncture treatment on diseases and disturbances of the digestive system such as indigestion, bloating, flatulence, nausea, vomiting, abdominal cramps and pain. Acupuncture also has regulatory effects upon the function and motility of the small and large intestines that will help to control diarrhea or constipation. Using acupuncture can dramatically help relieve the spasms in the gastrointestinal tract.

The strength of the immune system may be increased by acupuncture. The immune system's primary function is protecting the body against infections and the development of cancer. Restoring proper immune function is one of the keys to total body health. There are two ways of increasing the strength of your immune system by acupuncture. First of all, the amount of "defense energy" in your body can be increased by stimulating certain points. The second way involves stimulating the Spleen channel. This channel (besides its important role in the digestive function) has a key role in our immune system, as well. Thousands of years ago, Chinese doctors recognized the connection between the digestive system and body resistance to diseases.

Acupuncture decreases cravings for sweets and controls appetite. Stimulation of "appetite control" or the "hunger point" in the ear lobe may suppress the brain activity responsible for cravings and appetite.

Most digestive disorders usually combine with stress and "toxic emotions" including mood swings, depressions, anxiety attacks and irritability.

Stress, particularly chronic or long lasting stress, is damaging to the body and mind. Stimulation of acupuncture points with needles or magnets can release endorphins, enkephalin and other well-being hormones in the brain. These substances also are natural painkillers. Acupuncture reduces anxiety and depression, improves night sleep, alleviates muscles spasms and decreases abdominal cramps or pains.

When your acupuncturist tells you that you have "Spleen Qi Deficiency" you might just stare back at him, or her blankly not understanding a word of how that explains the issues that you are seeking to resolve.

The Traditional Chinese Medicine (TCM) theory uses the names of the organs to help illustrate a model of related physical and emotional issues. When a practitioner says you have a "*Spleen*" issue they are, generally speaking, of the "spleen system" from a Chinese standpoint. In simple terms, the spleen system is central in taking in, processing and converting food into energy. In Chinese medicine, the *Spleen* is associated with the entire digestive system, including the stomach, as well.

The ancient oriental doctors couldn't know about the pancreas, enzymes, digestion, absorption and assimilation of food as we know now. But they were genius observers. The oriental *Spleen* system in many cases related to the pancreatic function. By the way, some European acupuncture doctors call this system the *Spleen/Pancreas* system and the meridian that is going through this system is called the Spleen/Pancreas meridian.

Imbalance in this system causes many symptoms, such as gas, nausea, bloating, abdominal pain, diarrhea, constipation, low or high appetite, fatigue, muscle weakness, and pale lips, which in western medicine can easily be associated with low production of pancreatic enzymes or pancreatic hormones.

For treatment of the imbalance in the *Spleen/Pancreas* system in TCM, traditionally some acupuncture points were used. It was shown that these points have a connection with areas of the nervous system, which also regulates the function of the pancreas, stomach and small intestine.

Digestive disorders and diseases are now very common. No wonder that the acupuncturist states that the individuals have problems with their *Spleen*.

Many Americans suffer from digestive problems for years and aren't aware that acupuncture may be very helpful. Some are afraid of pain and associate the acupuncture with blood withdrawal. They would be very surprised how calming, relaxing and tolerable the acupuncture treatment really is.

Currently, acupuncture is widespread and is used in over 100 countries around the world. Why does acupuncture have this much attention? There are several reasons for this.

First, the main advantage of acupuncture is that it is the treatment without drugs. There are no such things as overdoses, chemical sensitivity, allergic reactions and so on.

Second, this treating method is effective by using the body's own healing process. It normalizes functions, which means if the function of the organ or system is high, acupuncture moves it down to normal. Contrary, acupuncture may normalize the function if it is low.

Third, acupuncture has been used for thousands of years, so the safety is confirmed. There are no serious side effects.

Fourth, acupuncture can accompany, enhance and compliment almost all known methods of treatment. When properly used, it often helps even when other methods of treatment fail.

Fifth, acupuncture is relatively cheap and doesn't need expensive equipment.

All acupuncture needs is a well-trained practitioner and an acupuncture patient with firm beliefs

For individuals with a medical background

Here is a fragment from an interview with one of the authors, Dr. Peter Melamed, Ph.D.

Q. What do you know about acupuncture?

A. My experience with acupuncture started a long time ago in 1978 when I worked as a MD in the ICU at a large regional hospital in the U.S.S.R. Besides intensive care, my job was also to provide anesthesia during surgical operations or procedures and take care of patients afterwards. At that time, like all young MDs, I was conservative and believed only in intravenous treatment by drugs, life support by respirators and cardioversion by electroshock and hemodialysis, which were my regular duties.

Fortunately, I was a curious person and figuratively put my nose everywhere, especially in the medical areas that I wasn't familiar with. You have to know that in the U.S.S.R. at that time, medical doctors were not aware of "alternative medicine." Doctors could provide any treatments that could be beneficial for the health of the patient without harm; it was his/her choice and responsibility. At that time, I used massage, cupping, herbal inhalation, and electro muscle stimulation in the ICU with positive results.

Having a duty as an anesthesiologist, I was open-minded to any ways to help me alleviate the pain of my patients. My friend involved me in an electro acupuncture workshop where I first learned about acupuncture points. It was natural, that I wanted to prove practically my first knowledge of Chinese acupuncture. In the ICU, there were usually a few patients in comas mostly after brain damage, hypoxia, stroke, etc. and were placed in life support treatments (ventilators, intravenous fluids, hormones, antibiotics, cardio tonics). I remember my first acupuncture patient well. The patient was a

young man post-auto accident with severe brain damage incompatible with life, without any hope of survival. He was in a coma for 5 days on life support treatments. In the U.S.S.R., the doctor in the ICU did not have the right to switch off the ventilator until the patient's heart stopped by itself. I came to my unit, inserted four needles in the traditional acupuncture points of the patient, and started stimulating them. To my surprise his blood pressure increased from 60/20 to 80/50, his EKG showed less hypoxic changes and his blood was more oxygenated for a while. After this, many times I observed positive actions of acupuncture in patients with comas and other serious conditions when the placebo effect was inessential. In the 70's and 80's I use acupuncture a lot in acute clinic, poison control and anesthesia and analgesia.

In the U.S.S.R., only MDs (mostly neurologists or anesthesiologists) could practice acupuncture. After special acupuncture training in Saint Petersburg (formerly Leningrad) I became one of the first acupuncturists in the U.S.S.R. Using electro acupuncture during surgeries as part of anesthesia, I could see analgesic and cardiovascular effects of acupuncture, which were confirmed by EKG, BP, oxigenometry and lab tests. The surgeons loved acupuncture anesthesia when patients woke up with final stitches without pain, smiled and said, "Thank you doctor." These patients required much low painkillers in post-op periods and intestinal motility returned earlier than usual.

Acupuncture was an effective tool in the treatment of intestinal and gastric paresis after surgeries and for stopping diarrhea. Acupuncture was a valuable part of treating acute pancreatitis, as well.

In addition, I have helped many alcohol abusers with mild pancreatitis by using acupuncture in the psychiatric ICU for 15 years.

After many years in the intensive care department, I continued to work as a chief doctor in the outpatient department where I used acupuncture everyday in many patients including those with chronic gastrointestinal problems.

It has to be said that in the former U.S.S.R., acupuncture was very popular. In the U.S.S.R. in 1990, there were 5-6 times more MD-acupuncturists than all acupuncturists in the U.S.A. currently. There were numerous conventions, conferences, and published clinical studies. In 1976, the Central Research Institute of Reflexology was founded in Moscow. Noted neuroscientist Professor R.A. Durinyan headed it. This institute was special. Why do I refer to it as special? Many studies about using acupuncture, especially ear lobe acupuncture in military stress and other situations in the combat field were conducted. By the way, after 30 years of research, the idea of using acupuncture, especially ear lobe acupuncture in the military field, is now accepted by the U.S. army, as well.

After immigrating to the U.S., I studied acupuncture at the Academy of Chinese Culture and Health Sciences in Oakland, California. I passed all exams to become a licensed acupuncturist in California and I am nationally certified too. Acupuncture has been one of my daily responsibilities for many years.

Information in this book about using acupuncture in pancreatic disorders, is evidence based on the authors' practice and scientific literature about this topic from Russian, English and German sources.

Acupuncture is an essential part of Traditional Oriental Medicine (TOM). Acupuncture is thought to have originated in China and is usually associated with Traditional Chinese Medicine (TCM). Today, besides traditional Chinese acupuncture, thanks to extensive medical research, different types of acupuncture (Japanese, Korean, and Russian) are also practiced worldwide.

Acupuncture involves the insertion of thin needles at certain points (acupoints) that are generally located along meridians. Meridians are interconnected channels throughout the body, and the ancient theory is that these meridians contain vital energy ("Chi") that circulates through the body. This vital energy flow is crucial to overall health and well-being. If the energy flow is blocked, it can lead to pain and health problems. Using

acupuncture stimulates specific points in the energy channels, restoring a healthy flow and balance.

Acupuncture is now under intensive research all over the globe. The therapeutic value of acupuncture has been studied experimentally in animals and humans. Acupuncture treatment is a powerful, worldwide recognized modality with unique and scientifically explained mechanisms. Charisios N. Karanikiotis MD and Phil Rogers MRCVS in the Medical Acupuncture Web Page <http://med-vetacupuncture.org/index.htm> bring about numerous amounts of research and references of the healing actions of acupuncture. 8

Acupuncture is best known for its effects in controlling pain, its value in treating alcohol and drug addiction and in the induction of surgical anesthesia. It is less well known that acupuncture has significant therapeutic value in a wide range of digestive diseases. This effect of the acupuncture is well established in clinical practice. Modern textbooks and journals of acupuncture list hundreds of clinical conditions that respond (partially or completely) to this therapy.

The World Health Organization (WHO) conducted the “*Review and Analysis of Reports on Controlled Clinical Trials*” of using acupuncture in the treatment of digestive disorders all over the globe. <http://apps.who.int/medicinedocs/en/d/Js4926e/#Js4926e>

Experts of the WHO confirmed that acupuncture provides satisfactory relief of epigastric pain significantly better than injections of morphine plus atropine; for gastrointestinal spasms, acupuncture is also superior to injections of atropine.

Another common symptom of digestive disorders is nausea and vomiting. The reviewed papers showed consistent results of decreasing of nausea and vomiting across different investigators, different groups of patients and different forms of acupuncture stimulation.

Acupuncture may serve as a complementary or alternative therapeutic procedure in patients with IBS and chronic ulcerative colitis, which are often difficult to treat with conventional medication.

There has been wide-ranging research on the effect of acupuncture on the digestive system, with large data showing its impact on the physiology of the gastrointestinal tract, including gastric acid secretion, motility, neuro-hormonal changes and sensory level changes. Many of these actions have been identified in animal models, as well.

Acupuncture shows positive analgesic and antispasmodic effects on the biliary tract and, as indicated previously, can be useful for treatment of biliary colic due to gallstones. Acupuncture is not only beneficial for relieving the colicky pain, but is also useful for expelling the stones.

In 2006, Professor Toku Takahashi from the Department of Surgery, Duke University Medical Center, Durham, North Carolina, USA published in the *Journal of Gastroenterology* the article “*Acupuncture for functional gastrointestinal disorders.*” [200] Here, is an abstract from this article.

“Functional gastrointestinal (GI) symptoms are common in the general population. Especially, motor dysfunction of the GI tract and visceral hypersensitivity are important. Acupuncture has been used to treat GI symptoms in China for thousands of years. It is conceivable that acupuncture may be effective in patients with functional GI disorders because it has been shown to alter acid secretion, GI motility and visceral pain. Acupuncture at the lower limbs (ST-36) causes muscle contractions via the somatoparasympathetic pathway, while at the upper abdomen (CV-12) it causes muscle relaxation via the somatosympathetic pathway. In some patients with gastro esophageal reflux disease (GERD) and functional dyspepsia (FD), peristalsis and gastric motility are impaired. The stimulatory effects of acupuncture at ST-36 on GI motility may be beneficial to patients with GERD or FD, as well as to those with constipation-predominant

irritable bowel syndrome (IBS), who show delayed colonic transit. In contrast, the inhibitory effects of acupuncture at CV-12 on GI motility may be beneficial to patients with diarrhea-predominant IBS, because enhanced colonic motility and accelerated colonic transit are reported in such patients. Acupuncture at CV-12 may inhibit gastric acid secretion via the somatosympathetic pathway. Thus, acupuncture may be beneficial to GERD patients. The antiemetic effects of acupuncture at PC-6 (wrist) may be beneficial to patients with FD, whereas the antinociceptive effects of acupuncture at PC-6 and ST-36 may be beneficial to patients with visceral hypersensitivity. In the future, it is expected that acupuncture will be used in the treatment of patients with functional GI disorders”.

Clinical and experimental evidences confirm the positive actions of acupuncture on many digestive disorders and diseases. Schneider A. *et al.* (2007) from the University Medical Hospital Heidelberg in Germany evaluate the evidence for effectiveness of acupuncture treatment in gastrointestinal diseases. 18 relevant controlled trials assessing acupuncture point stimulation for patients with gastrointestinal diseases were considered for inclusion. In all trials, patients’ quality of life improved significantly. [194]

There are many books and articles, which support therapeutic actions of acupuncture. However, the literature about acupuncture and pancreatic disorders contains a relatively small number of sources, and they generally stress the topic of diabetes.

Regarding specifically pancreatic health, there is some evidence (mostly Chinese articles) of the healing actions of acupuncture. Chinese researchers Li J. *et al.* (2008) concluded that electro acupuncture can significantly improve the disturbance of gastrointestinal motility induced by acute pancreatitis and relieve pathological damage of pancreas.[195]

Wang XY (2007) [196] used electro acupuncture in the treatment of 68 patients with acute pancreatitis. All patients were treated with anti-infections and inhibited pancreas secretions, improved microcirculation and protective agent of gastric mucosa. In addition to this conventional treatment, half of patients received electro acupuncture at Zusanli (S 36), Shangjuxu (S 37), Gongsun (Sp 4), Taichong (Liv 3) and Xuanzhong (G 39), twice daily for 3 days. Conclusion: Electro acupuncture can significantly decrease permeability of intestinal mucosa in the patient with acute pancreatitis and reduce accumulation of endogenous inflammatory mediators and vascular active substance in the intestinal mucosa, so as to alleviate necrosis of intestinal epithelial cells and protect the barrier of gastrointestinal mucosa.

Another Chinese published article (Wang XY, Shi X, He L. (2007) [197] investigates the therapeutic effect and mechanism of electro acupuncture in treating gastrointestinal disorders in acute pancreatitis patients. The severity of acute pancreatitis was evaluated according to APACHE II and Balthazar CT scoring system. Electro acupuncture (4 Hz, 4-6 V) was applied to bilateral Zusanli (S 36), Shangjuxu (S 37), Xuanzhong (G 39), Taichong (Liv 3), and Gongsun (Sp 4) for 60 minutes, twice a day, 5 days altogether. The researchers found that acupuncture is able to enhance the gastrointestinal dynamics and improve its motor activity in the patients with acute pancreatitis.

According to Qi QH *et al.* (1995), including acupuncture in the Western treatment of acute pancreatitis that consisted of incision and decompression of pancreatic capsule, debridement of pancreas and inhibiting pancreatic secretion could decrease mortality from 34.8% to 25.6%. [198]

The therapeutic effect of integrated traditional Chinese and Western medicine on severe acute biliary pancreatitis was investigated by Sun NF, Zhang JL in 2009. [199] The researchers concluded that the combination of Chinese and Western medicine has a positive effect in treating severe acute biliary pancreatitis in the elderly.

Eastern and Western medicines have merged so much during the last 40 years mostly in the way by using Western technology, diagnostic tools, and Eastern acupuncture techniques together. Even in China, many practitioners use an acupuncture treatment plan and Western diagnosis for clinical symptoms.

Below there are more commonly used acupuncture points for different kinds of conditions and diseases, which are correlated with the *acidic pancreas and bile*, *pancreatic deficiency* and *pancreatic failure* stages of exocrine pancreatic deficiency.

For simplicity, we use the “symptom or condition => acupuncture points” approach.

There have been many abbreviations used to identify the acupuncture meridians and most are listed below. The bold abbreviations are the ones used in this text. Names of the acupuncture points were taken from the book “*Chinese Acupuncture and Moxibustion*,” Chief editor Cheng Xinnong, Foreign Languages Press, Beijing, 1990.

L, LU = Lung meridian

LI, CO = Large Intestine meridian

S, ST = Stomach meridian

Sp, SP = Spleen meridian

H, HT, HE = Heart meridian

SI = Small Intestine meridian

B. BL, UB = Bladder meridian

K, KI = Kidney meridian

P, PC, HC, Per = Pericardium, Heart Constrictor meridian

SJ, TW, TH, = San Jiao, Triple Warmer, Tri-Heater, Triple Burner meridian

G, GB = Gallbladder meridian

Liv, LV, LI, LIV = Liver meridian

Ren, CV, VC, = Ren meridian, Conception Vessel meridian

Du, GV, VG, = Du meridian, Governing Vessel meridian

b. Acupuncture for the *Acidic Pancreas and Bile Stage*

Possible diseases and conditions associated with the *acidic pancreas and bile* stage include functional dyspepsia, biliary dyskinesia, GERD –Gastro Esophagus Reflux Disease, SOD - Sphincter of Oddi Dysfunction type III, IBS – Irritable Bowel Syndrome, Intestinal Dysbiosis (Candida-yeast overgrowth), Metabolic Syndrome, etc. These conditions are called functional because there is abnormal function without real structural changing in the GI organs.

Conditions and acupuncture points selections for the *acidic pancreas and bile* stage:

Common useful points for this condition are Zhongwan (Ren 12), Zusanli (S 36), Hegu (LI 4), Pishu (B 20), Weishu (B 21), Tianshu (S 25), [Neiguan (P 6) and Gongsun (Sp 4)], Liangmen (S 21)

Functional Dyspepsia:

Stress: Baihui (Du 20), Neiguan (P 6), Sanyinjiao (Sp 6), Shenmen (H 7), Yintang

Epigastric Spasms: Hegu (LI 4), Zusanli (S 36), Zhongwan (Ren 12), Liangmen (S 21), Neiting (S 44), Pishu (B 20), Weishu (B 21), Kunlun (B 60), Dazhui (Du 14), Sanyinjiao (Sp 6), [Neiguan (P 6) and Gongsun (Sp 4)]

Nausea/Vomiting: Zhongwan (Co 12), Zusanli (S 36), [Neiguan (P 6) and Gongsun (Sp 4)]

Upper Abdominal Cramps, Gas, Bloating: Zusanli (S 36), Tianshu (S 25), Neiting (S 44), Zhongwan (Ren 12), Chengman (S 20)

Irritable Bowel Syndrome - IBS:

Indigestion: Zusanli (S 36), Gongsun (Sp 4)

Diarrhea: Shousanli (LI 10), Zusanli (S 36), Zhongwan (Ren 12), Tianshu (S 25)

Constipation: Zhigou (SJ 6), Zhaohai (K 6), Zhongwan (Ren 12), Zusanli (S 36), Pishu (B 20), Weishu (B 21), Dachangshu (B 25)

Abdominal Spasms: Hegu (LI 4), Shenmai (B 62), Zusanli (S 36), Liangqiu (S34),

Neiting (S 44), Zhongwan (Ren 12), Neiguan (P 6)

Stress, Anxiety, Negative Moods: Baihui (Du 20), Neiguan (P 6), Sanyinjiao (Sp 6), Shenmen (H 7), Yintang

Lower Abdominal Cramps, Gas, Bloating: Zusanli (S 36), Tianshu (S 25), Neiting (S 44), Hegu (LI 4), Qihai (Ren 6), Yinlingquan (Sp 9), Guanyuan (Ren 4)

Biliary Dyskinesia: Zusanli (S 36), Yinlingquan (Sp 9), Zhangmen (Liv 13), Ganshu (B 18), Danshu (B 19), Zhiyang (Du 9), Yanglingquan (GB 34)

GERD –Gastro Esophagus Reflux Disease: Zhongwan (Ren 12), Jique (Ren 14),

Burong (S 19), Zusanli (S 36), Neiguan (P 6), Qimen (Liv 14), [Houxi (SI 3), Shenmai (B 62)]

SOD - Sphincter of Oddi Dysfunction type III:

Common points: Zhongwan (Ren 12), Liangmen (S 21), Zusanli (S 36), Neiguan (P 6)

SOD, Biliary Type Pain: Zhongwan (Ren 12), Taichong (Liv 3), Xingjian (Liv 2), Yanglingquan (G 34), Qiuxu (G 40), Ganshu (B 18), Danshu (B 19), right Qimen (Liv 14), right Zhangmen (Liv 13), right Burong (S 19)

SOD, Pancreatic Type Pain: Zhongwan (Ren 12), Sanyinjiao (Sp 6), Yanglingquan (G 34), Zusanli (S 36), Hegu (LI 4), Pishu (B 20), Weishu (B 21), left Qimen (Liv 14), left Zhangmen (Liv 13), left Burong (S 19)

Intestinal Dysbiosis (Candida-yeast overgrowth, SIBO):

Low Immunity: Hegu (LI 4), Taichong (Liv 3), Waiguan (SJ 5) and Zulinqi (G41), Qihai (Ren 6), Mingmen (Du 4), Shenshu (B 23), Fengchi (G 20), Shousanli (LI 10), Quchi (LI 11), Zusanli (S 36), Xuanzhong (G 39), Sanyinjiao (Sp 6), Neiguan (P 6), Dazhui (Du14), Dazhu (B 11)

Sinusitis: Yingxiang (LI 20), Bitong, Hegu (LI 4), Lieque (L 7), Neiting (S 44)

Vaginal Yeast Infection: Qugu (Ren 2), Zhongji (Ren 3), Guanyuan (Ren 4), Taixi (K 3), Hengdu (K 11), Dahe (K 12), Yinlingquan (Sp 9), Mingmen (Du 4), Shenshu (B 23), Pangguangshu (B 28)

Metabolic Syndrome:

Overweight Issues, Belly Fat: Neiguan (P 6) and Gongsun (Sp 4), Zhongwan (Ren 12), Liangmen (S 21), Tianshu (S 25), Zusanli (S 36), Yinlingquan (Sp 9), Quchi (LI 11), Taichong (Liv 3)

Fatty Liver: Taichong (Liv 3), Yanglingquan (G 34), Ganshu (B 18), Danshu (B 19), Xingjian (Liv 2), Yangfu (G 38), Qiuxu (G 40), Zhiyang (Du 9), [Waiguan (SJ 5), Zulinqi (G 41)]

c. Acupuncture for the *Pancreatic Deficiency* Stage

Possible diseases and conditions associated with *pancreatic deficiency* include: clinical or subclinical episodes of acute pancreatitis, chronic

pancreatitis, GERD, gastritis, gastric ulcers, duodenal ulcers, duodenitis, Sphincter of Oddi Dysfunction type II or III, gallbladder disorders (inflammation, stones, sludge, parasites), conditions after gallbladder removal and some surgeries on the upper GI tract, considerable intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth), intestinal parasites, IBD (Crohn's Disease, Ulcerative Colitis), Celiac Diseases, Cystic Fibrosis (early stage), Diabetes, alcohol abuse, some acute and/or chronic poisoning etc.

The main conditions of the *pancreatic deficiency* stage are abdominal pain, bloating, indigestion, and diabetes.

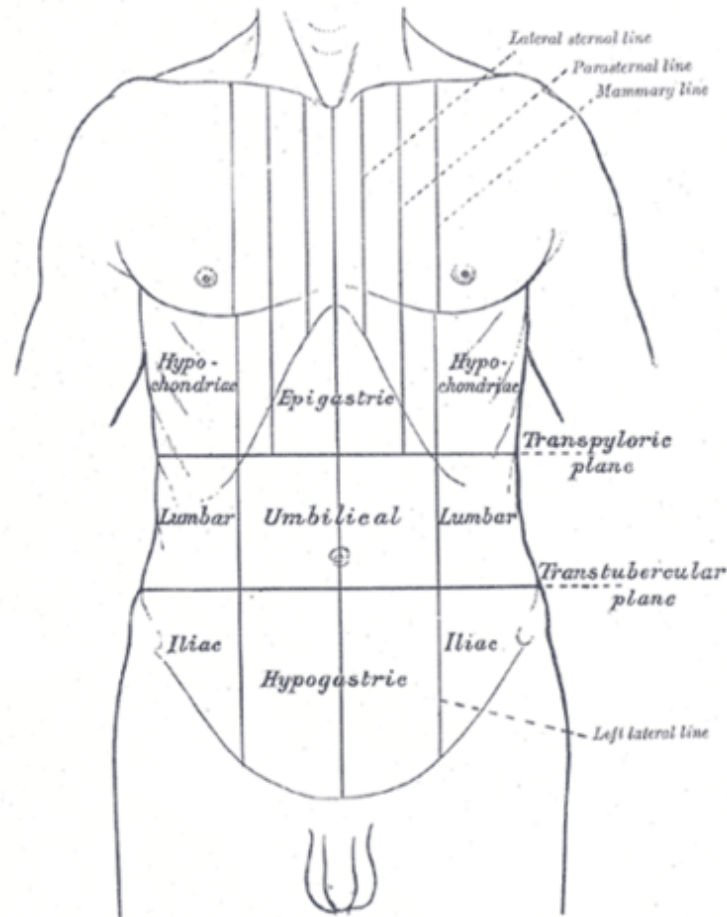
Development of chronic abdominal cramps or pain that is connected with consumption of meals is a main symptom of *pancreatic deficiency*

Acupuncture is a very important part of the treatment of *pancreatic deficiency*, especially chronic abdominal pain syndrome.

Possible mechanisms of acupuncture treatment of this kind of pain may include:

- Decreasing smooth muscles spasms
- Normalizing the rhythm of peristalsis of bile and pancreatic ducts, gallbladder and Sphincter of Oddi
- Normalizing secretion of the stomach, pancreas and duodenum
- Influencing brain chemistry. Stimulation of acupuncture points may increase endorphins and enkephalins in the brain - the body's natural painkillers. Both are morphine-like natural substances whose functions are similar to those of opium-based drugs
- Having anti-inflammatory, antibacterial and antiviral effects

In the *pancreatic deficiency* stage, the location of chronic abdominal pain is various and depends upon conditions and diseases.



In this picture from an old anatomical textbook, the anterior abdominal wall is divided into 9 regions. It is practically easier to perform acupuncture treatment to alleviate chronic abdominal pain by using these nine areas. We add some variants of the selection of acupuncture points for chronic abdominal pain from medical literature and our personal experience in acupuncture anesthesia and analgesia of chronic pain syndromes.

Chronic Abdominal Pain – Common Points:

Zhongwan (Ren 12), Zusanli (S 36), Hegu (LI 4), Tianshu (S 25), Qihai (Ren 6), Yintang, Baihui (Du 20)

Epigasrtic Abdominal Pain:

Shangjuxu(S 37), Neiguan (P 6) and Gongsun (Sp 4), Liangmen (S 21),
Neiting (S 44)
Pishu (B 20), Weishu (B 21), Geshu (B 17)

Left Hypochondriac Pain:

Sanyinjiao (Sp 6), Gongsun (Sp 4), Taichong (Liv 3), Jiuwei (Ren 15), Pishu (B 20), Weishu (B 21), Geshu (B 17), Yanglingquan (G 34), Zhigou (SJ 6)

Points on the left side: Qimen (Liv 14), Zhangmen (Liv 13), Liangmen (S 21), Ligou (Liv 5), Yangjiao (G 35)

Right Hypochondriac Pain:

Neiguan (P 6), Taichong (Liv 3), Yanglingquan (GB34), Yanglingquan (GB 34), Zhigou (SJ 6), Waiguan (SJ 5) and Zulinqi (G 41),

Points on the right side: Qimen (Liv 14), Zhangmen (Liv 13), Liangmen (S 21), Burong (S 19)

Umbilical Pain:

Tianshu (S 25), Neiguan (P 6) and Gongsun (Sp 4), Sanyinjiao (Sp 6)

Left Lumbar Region Pain:

Xiawan (Ren 10), Sanyinjiao (Sp 6), Yinlingquan (Sp 9), Zhigou (SJ 6) and Shangjuxu (S 37) Mingmen (Du 4), Shenshu (B 23)

Points on the left side: Daheng (Sp 15), Daju (S 27), Xiajuxu (S 39)

Right Lumbar Region Pain:

Xiawan (Ren 10), Sanyinjiao (Sp 6), Yinlingquan (Sp 9), Zhigou (SJ 6) and Shangjuxu (S 37), Mingmen (Du 4), Shenshu (B 23)

Points on the right side: Daheng (Sp 15), Daju (S 27), Xiajuxu (S 39)

Left Iliac Pain:

Sanyinjiao (Sp 6), Yinlingquan (Sp 9), Guanyuan (Ren 4), Yaoyangguan (Du 3), Dachangshu (B 25)

Points on the left side: Wushu (G 27), Weidao (G 28), Shangjuxu (S 37), Xiajuxu (S 39)

Right Iliac Pain:

Sanyinjiao (Sp 6), Yinlingquan (Sp 9), Guanyuan (Ren 4), Yaoyangguan (Du 3), Dachangshu (B 25)

Points on the right side: Wushu (G 27), Weidao (G 28), Shangjuxu (S 37), Xiajuxu (S 39)

Hypogastric - Lower Abdominal Pain:

Sanyinjiao (Sp 6), Guanyuan (Ren 4), Ququan (Liv 8), Mingmen (Du 4), Shenshu (B 23)

Peter Melamed's personal experience of treating patients with acute pancreatitis in the ICU after surgeries and patients with chronic pancreatitis in the outpatient department by acupuncture stresses a few facts. The doctors that practice acupuncture in the U.S.S.R. at that time paid less attention to the ancient theory of TCM, but there was a generally accepted outlook on the actions of acupuncture through either the central (brain, spine) or autonomic (sympathetic or parasympathetic) nervous systems.

It is known that, in animal experiments, atropine, procaine (novocaine) or simple cutting of peripheral nervous branches decreased the actions of acupuncture. Some clinical and experimental data of acupuncture or electro acupuncture tried to explain this treatment method as the action of needles on the peripheral nervous system being similar to procaine blockade. Sometimes, doctors referred to this as a “dry blockade” and tried to insert the needles close to nerve branches or vegetative ganglions next to the spinal column. Inserting deep needles with electric or numb sensations in the thoracic points of T6 - T10 diminished abdominal pain, decreased consumption of painkillers and alleviated some of the digestion symptoms.

These points are described in TCM as huatuojiaji, or M-BW-35 (the extraordinary points) and, by our opinion, the usage of these points may be expanded, especially for all digestive disorders and chronic abdominal cramps or pains.

d. Acupuncture for the *Pancreatic Failure* Stage

Possible diseases and disorders associated with pancreatic failure: final stage of chronic pancreatitis, Cystic Fibrosis, liver cirrhosis, cancer, etc.

In this condition, due to severe structural and functional damage, only 10% of pancreatic function remains. In its turn, *pancreatic failure* causes indigestion of food, especially fats, deficiencies of essential nutrients, severe intestinal dysbiosis (Candida-yeast overgrowth and SIBO), malnutrition and inner toxicity, and this causes “domino” harmful effects on other vital organs and systems.

The main symptoms of *pancreatic failure* are persistent abdominal pain and malabsorption syndrome that includes steatorrhea (loose, greasy, floating, foul-smelling stools that are difficult to flush), weight loss and malnutrition.

Pancreatic failure is very similar to the condition that was described thousands of years ago in Traditional Chinese Medicine as *Spleen Qi deficiency*. In TCM, the Spleen is considered to be the key organ to regulate digestion. We have to note that “*Spleen*” in TCM is not the same as the Western spleen. Its functions actually have a closer connection to the Western **pancreas**. The symptoms of a *Spleen Qi deficiency* that are consistent with the digestive functions of the *Spleen* include bloating, gas, loose stools, poor appetite, mental and physical fatigue, fullness or distension after eating, depression and lack of strength.

Acupuncture is a large component of healing *Spleen Qi deficiency* according to TCM, and it has accumulated many acupuncture remedies for this condition. It turns out, that some of the skin acupuncture points, which are used for this condition have a connection through the central and peripheral nervous systems with the pancreas and surrounding organs such as the stomach, duodenum, liver, gallbladder, etc.

Stimulation of these points clinically improves the function of the pancreas and whole digestive system:

Pishu (B 20), Weishu (B 21), Zusanli (S 36), Zhongwan (Ren 12), Tianshu (S 25)

Auxiliary points: Shangqui (Sp 5), Fenglong (S 40), Liangmen (S 21), Hegu (LI 4)

Chronic Diarrhea:

Pishu (B 20), Xiangmen (Liv 13), Taibai (Sp 3), Zhongwan (Ren 12), Zusanli (S 36),

Mingmen (Du 4) and Shenshu (B 23), Guanyuan (Ren 4), Taixi (K 3),
[Tianshu (S 25), Zusanli (S 36) and Shousanli (LI 10)]

e. Auriculotherapy

Auriculotherapy, or auricular therapy (ear acupuncture) or auriculoacupuncture (ear lobe acupuncture) is a style of acupuncture. Auriculotherapy is based on the idea that the ear is one of the micro systems, with the entire body represented on the ear lobe, the outer portion of the ear.

It is not known the exact time and place of birth of auriculotherapy, but there is no doubt that the history of this method has been in existence for thousands of years. Auricular lobe therapy, for treatment, was discovered independently in different regions of the ancient world.

The new step of developing of auricular techniques, theoretical basis and practical medical approaches began in the 1950s thanks to the French physician and scientist Paul Nogier (1908-1996).

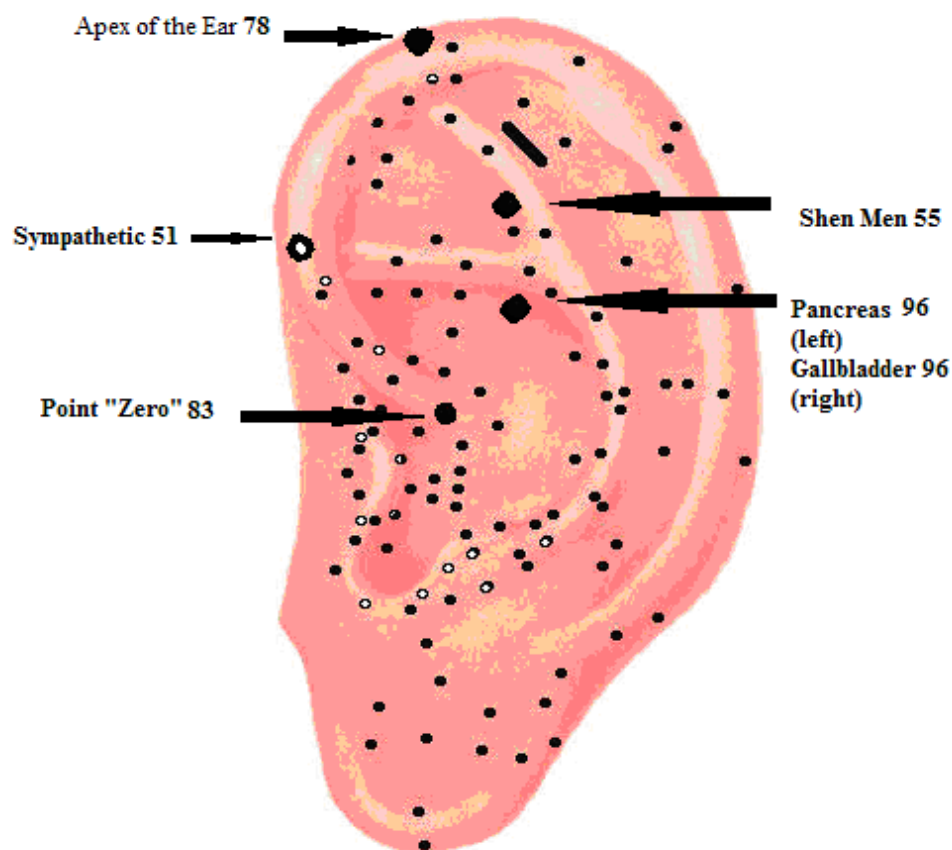
In 1956, Paul Nogier introduced years of research to an International Congress in Marseilles where he explained his work on the effects of the auricle for the treatment of pain syndromes. His message made a strong impression on the scientific, medical community. The picture below shows his hypothesis that the ear lobe reflects the whole body as a fetus in the womb. This correspondence of ear lobe points and body areas was proved later by many researchers.

One of these researchers was Soviet neuroscientist professor R.A. Durinyan. In 1977, he founded the Government Institute of Reflex Therapy. In the U.S.S.R., acupuncture was referred to as reflex therapy. With help of modern neurophysiology, Professor R.A. Durinyan and his colleagues discovered functional relations of the auricle with key structures of the brain and published their own charts of ear lobe therapy.

Anesthesiologists and other doctors for all kinds of pain relieving therapies, including chronic abdominal pains, used acupuncture and electro acupuncture of the ear lobe. Most European acupuncturists used the International Classification of ear lobe points, which was published by Konig G, Wancura J in 1981, where all ear lobe acupuncture points were assigned names and numbers.[335]

For many gastrointestinal ailments including abdominal pain, cramps, nausea, vomiting, gas, abdominal distention, indigestion as well as stress, insomnia and anxiety, acupuncture, vacaria seeds and even point massage of those auricular zones have noticeable therapeutic actions.

Between many ear lobe acupuncture points, we have combined 5 of those points and have been using them for a long time (see localizations on the picture).



This combination includes:

1. **Sympathetic** - 51
2. **Shen Men** - 55
3. **Apex of the Ear** - 78
4. **Point “Zero”** - 83
5. **Pancreas/Gallbladder** - 96

Sympathetic 51. *Point is located* at inferior anthelical crus at the intersection with the brim of ascending helix. *Action:* decreases pain, spasms, nausea, bloating, inflammation

Shen Men 55. *Point is located* at the apex and upper edge of the triangular fossa. *Action:* decreases pain, anxiety, depression, spasms, inflammation, and itch; good for insomnia

Ear Apex 78. *Point is located* at the upper part of the helix and facing towards the terminal portion of the superior crus of the antihelix. *Action:* relieves pain, anxiety, inflammation, food sensitivity, allergies

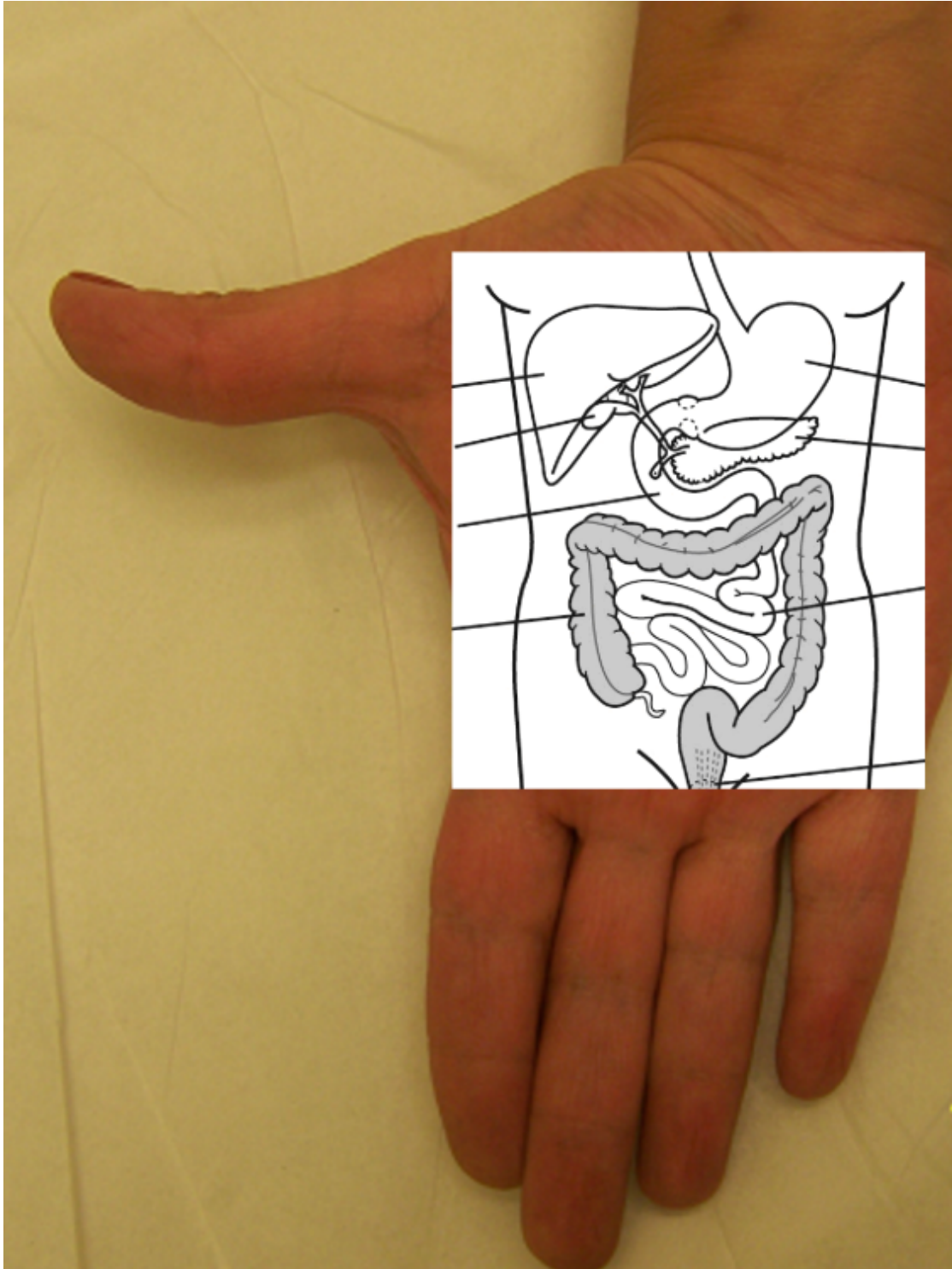
Point “Zero” 83. Point is located at the junction of the conchal ridge and the root of the ascending helix. *Action:* promotes actions of all other ear points. Decreases pain, anxiety, inflammation; used for addiction treatment and withdrawal symptoms

Pancreas (left), Gallbladder (right) 96. Point is located at superior concha. *Action:* all upper abdominal disorders, pancreatitis, diabetes, gallbladder and liver diseases

f. SuJok

SuJok therapy was developed by South Korean scientist Professor Park Jae Woo. The translation of SuJok means: "Su" - hand, "Jock" – foot in Korean. Doctor Park Jae Woo considered that the hands and feet mimic the structure of the human body; they are a “mini-mirror” of it. Massage, acupuncture and electro acupuncture of the active points or some zones of the hands and feet bring healing effects.

Thousands of practitioners all over the globe (mostly in Eastern Europe, Russia, India and Ukraine) successfully implement the SuJok system of micro acupuncture for treating many disorders. For example, the inner part of the palm represents the abdominal area, therefore, finger massage or acupuncture can quickly diminish spasms, pain, nausea, bloating, etc.



This picture helps to understand the areas for point massage treating of gastrointestinal organs, including the pancreas.

The credo of the authors is “*Treatment has to be less dangerous than the disease.*” Acupuncture is ideal for this. Books, articles, research, trials and evidence based healing actions of acupuncture on millions of people world-wide demonstrated that this method of treatment has survived for centuries and now celebrates its rebirth.

Presently acupuncture holds the interest of many medical professionals and their patients in the U.S., but mostly for musculoskeletal pain syndromes. The authors have altogether more than 45 years of experience using acupuncture in patients with different health problems, including GI disorders. We sincerely hope that this book will catch the attention of doctors and medical practitioners and demonstrate that acupuncture, as a safe, healing method, not only decreases the musculoskeletal pain, but also may be used in many varieties of digestive diseases and disorders.

Interesting facts at a glance:

Acupuncture is one of the oldest forms of known healing

Acupuncture is the insertion of hair-thin needles into the body at specific points, thereby stimulating and activating the body’s self-healing mechanisms

Clinical studies and experimental research show positive results obtained from acupuncture treatment on diseases and disturbances of the digestive system such as indigestion, bloating, flatulence, nausea, vomiting, abdominal cramps, pain, diarrhea or constipation

Acupuncture may increase the strength of the immune system

Stimulation of acupuncture points with needles or magnets can alleviate stress, reduce anxiety and depression, promote improved night sleep and lessen muscle spasms by releasing well-being hormones and natural painkillers in the brain

The main advantage of the acupuncture is that it is non-drug treatment. Over doses, chemical sensitivity and allergic reactions to acupuncture do not exist

This treating method is effective by using the body's own healing mechanism

Acupuncture is one of the safest methods of treatment in the world

Acupuncture can combine with any other methods of treatment

Acupuncture is relatively cheap; it doesn't need expensive equipment so it can be even used on the military battlefield or places of disasters

Acupuncture has to be part of the healing program for the *acidic pancreas and bile* stage of exocrine pancreatic deficiency. Effectiveness of acupuncture is proved in many functional diseases of the gastrointestinal tract

Acupuncture treatment is a very important part of treating pancreatic deficiency, especially chronic abdominal pain syndrome

In metabolic conditions of *pancreatic deficiency* such as Metabolic Syndrome, overweight issues and diabetes, acupuncture can help lose weight, decrease appetite, normalize hormonal balances (thyroid, insulin) and alleviate hypoglycemia and hyperglycemia

***Pancreatic failure* is very close to Spleen Qi deficiency, described thousands of years ago in Traditional Chinese Medicine (TCM)**

“Spleen” in TCM has a closer connection to the Western pancreas

TCM acupuncture, Japanese scalp, Korean sujok and Russian ear lobe styles of acupuncture can be very useful tools for treating patients with pancreatic failure, especially for chronic pancreatitis

Many Americans suffer from digestive problems for years and don't know that acupuncture may be very helpful

Acupuncture, as a safe and effective healing method, not only decreases the musculoskeletal pain, but also may be used in varieties of digestive diseases and disorders

Chapter 35-Herbal Remedies for Exocrine Pancreatic Deficiency

For individuals lacking a medical background

Herbal medicine is the most ancient form of healing known to humankind. Herbs have been used throughout history in all cultures around the world. These include ancient systems such as Indian Ayurveda, Traditional Chinese Medicine and modern European phytotherapy (from Greek *photon*= plant). The word “herb” as used in herbal medicine, (also known as botanical medicine or phytotherapy), means plant or part of the plant that is utilized for medicinal purposes. “Herb” can be a leaf, flower, stem, bark, fruit, seed, root, or any other part of the plant. By using herbs in their complete form, the body's healing process utilizes the components provided by nature.

From half a million plants in the earth, only about 5,000 of these have been extensively studied for medicinal purposes.

Today, approximately 25% of all prescription drugs are derived from trees, shrubs, or herbs. Some of them are made from plant extracts, while others are synthesized to mimic a natural plant compound.

The majority of medicinal drug groups were discovered or developed from the plant kingdom, even if they are now manufactured synthetically. Extensive scientific documentation now exists concerning the use of herbs for health conditions including indigestion, pain, diarrhea, constipation,

gallbladder stones, inflammation, depression, anxiety, insomnia, ulcers, bleeding, colitis, cancer and more. All these conditions affect the pancreas, or, on the other hand, can be a consequence of poor pancreatic function.

The majority of herbal remedies in the world for healing every sickness are actually mixtures of herbs and plant extracts, rather than just strictly one herb. A blend of herbs (herbal formula) has some advantages to a single herb such as decreased unwanted effects and the possibility to affect different aspects of health conditions.

With the utmost respect to herbal medicine and the practitioners that employ it, the authors cannot describe all the healing properties of botanicals for digestive disorders. Thus, the focus will lie on personal experiences of Biotherapy's practitioners.

In our practice, we use approximately 50 herbs, which have a long history as healing remedies, are well researched and are considered safe. These herbs contain a broad range of actions and conditionally are divided in groups with similar actions. The same herbs can have many different actions. For example, by medical literature, St. John's Wort has antimicrobial, anti-viral, anti-inflammatory, anti-depressive, and antispasmodic actions, promotes healing of the tissues, and helps with pain and sleep.

For individuals with a medical background

The use of herbs for enhancing pancreatic function is “terra incognita” even for experienced practitioners and mainly focuses on insulin production. Nevertheless, there are many common herbs, which are known to improve digestion and thus, possibly enhance pancreatic function.

The authors have used either single or herbal formulas for more than 30 years. The herbs from Biotherapy's herbal formulas are considered safe in

the United States. The main functional categories of herbs that are used in the Biotherapy's formulas are described below.

Carminative Group

Carminative, spasmolytic, and antispasmodic plants are rich in aromatic, volatile oils. They stimulate the digestive system to work properly and easily. They soothe the gut wall, reduce inflammation that might be present, ease gripping pains and help to expel gas from the digestive tract.

Anise, Cayenne, Chamomile, Fennel, Ginger, Hawthorn, Hops, Juniper, Lobelia, Oregano, Motherwort, Passion Flower, Peppermint, Poria, Sage, St. John's Wort, Thyme, Turmeric, Valerian

Antiseptic Group

Antimicrobial, antiseptic, anti-Candida and anti-parasitic plants help the body destroy or defend againsts disease-causing microorganisms. They can help the body strengthen its own resistance to infective microorganisms, yeasts, and parasites and aid the body's natural immunity.

Cayenne, Chamomile, Clove, Dandelion, Echinacea, Elecampane, Ginger, Golden Seal, Juniper, Licorice, Oregano, Pau D'arco, Peppermint, Rhubarb, Sage, St. John's Wort, Senna, Thyme, Turmeric, Yarrow

Analgesic Group

Analgesic, sedative, anti-stress, and calmative plants can help to relieve or diminish cramps, pain and nausea. Herbs from this group can reduce nervousness, irritation and have mild sedative or tranquilizing effects. They promote rest and sleep.

Chamomile, Clove, Fennel, Ginger, Gotu Kola, Hops, Oregano, Motherwort, Passion Flower, Peppermint, Poria, Sage, St. John's Wort, Thyme, Turmeric, Valerian, Yerba Mate

Astringent Group

Astringents have binding actions on mucous membranes. They have the effect of reducing irritations and inflammations, and creating a barrier against infections. Along the whole length of the digestive tract, they support to reduce inflammation and can reduce diarrhea. Astringent herbs cause shrinkage of mucous membranes and are often used internally to limit mucous secretions.

Bearberry, Golden Seal, Hawthorn, Motherwort, Peppermint, Poria, Sage, St. John's Wort, Shave Grass, Thyme, Turmeric, Yarrow

Purgative Group

Purgative, laxative, and bowel tonics stimulate the bowel action. These herbs have a toning and cleansing effect on the colon, thereby establishing regularity and properly eliminating wastes.

Barberry, Buckthorn, Flaxseed, Licorice, Rhubarb, Senna

Demulcent Group

Demulcent herbs are rich in mucilage and alleviate and protect sore or inflamed tissues.

They reduce irritation down the whole length of the bowel and sensitivity to potentially corrosive gastric acids, bile; therefore can help prevent diarrhea and reduce the muscle spasms that cause colic.

Flaxseed, Corn Silk, Irish Moss, Licorice

Diuretic Group

Diuretics increase the production and elimination of urine. They help the body eliminate waste and support the whole process of inner cleansing.

Bearberry, Burdock, Dandelion, Elecampane, Fennel, Golden Seal, Hops, Corn Silk, Juniper, Licorice, Lobelia, Poria, Sage, Senna, Shave Grass, Wild Clover, Yarrow

Hepatic Group

Hepatic herbs are divided in three categories:

1. Cholagogues promote the flow of bile
2. Choloretics are plants that support the bile production and excretion by the liver
3. Hepatoprotectors are plants that support liver function and aid detoxification

Many herbs from the hepatic group have all three actions overlapping each other.

Barberry, Burdock, Dandelion, Elecampane, Fennel, Flaxseed, Ginger, Corn Silk, Licorice, Milk Thistle, Peppermint, Rhubarb, Rosehips, St. John's Wort, Turmeric, Wild Clover, Yarrow

For individuals with pancreatic/digestive problems, the Biotherapy uses four unique herbal formulas designed decades ago by Peter Melamed, Ph.D. These compound formulas have been manufactured in the U.S. with the quality, quantity and toxicity control of ingredients for more than 10 years.

Yin Formula is an all-natural, unique, safe, and highly effective herbal remedy that will relieve stress, insomnia, nervous tension, anxiety, restlessness, and irritability.

This is one of Biotherapy's most famous and popular formulas. Many of the clinically tested ingredients found in this herbal formula are in special proportions and have been shown to alleviate abdominal pain, spasms and cramps, maintain mental equilibrium, relax the body and strengthen the nervous and immune systems. Yin Formula also helps reduce the cravings for sugar, coffee, tobacco, and alcohol. Yin Formula can be used in any stage of exocrine pancreatic deficiency.

Evidence based, this herbal formula shows positive results in many chronic functional disorders of the GI tract with abdominal cramps and discomfort in *acidic pancreas and bile* stage.

Yin Formula may be used for any situations connected with chronic pain, insomnia, anxiety, and lower mood, which accompany *pancreatic insufficiency* and particularly *pancreatic failure*. This herbal formula is very beneficial in the alcohol withdrawal program, as well.

Lower Bowels Formula is an all-natural, unique, safe, and highly effective herbal remedy that naturally promotes regularity and improves detoxification mechanisms of the lower bowels. It helps to eliminate poisons and parasites from the intestinal tract, deep cleanses the colon, boosts energy levels, supports healthy skin, and nutritionally supports a healthy immune system. Many of the clinically tested ingredients found in this herbal formula, in special proportions, have been shown to stimulate peristaltic activity within the lower bowel and support the digestive system. Some herbs in this formula have repaired actions, soothe mucous membranes, aid in the process of digestion, and help to remove the parasites and Candida-yeast.

Lower Bowels Formula can be used in many problems with bowel elimination. Constipation is the most common gastrointestinal complaint in the United States. The most frequent sign of a toxic colon is chronic constipation. The longer the waste is retained, the more poisons are being absorbed into the blood. It has been proven that many illnesses originate in the colon. Lower Bowels Formula is unique, perhaps the most effective, all-natural herbal colon cleansing product.

Cleanse and Purify is an all-natural, unique, safe, and highly effective herbal remedy that consists of 32 herbs. Cleanse and Purify is carefully designed to promote healthy cleansing of waste, chemicals, and toxic, environmental factors from the body and purges internal and external toxins and parasites from the colon, gall bladder, liver, skin, gastrointestinal tract, and the kidneys. This unique herbal formula helps eliminate toxic build-up and parasites, boosts the immune system, and promotes digestion. It is ideal for people who want to keep vibrant health

The Cleanse and Purify herbal formula can be used in any stage of exocrine pancreatic deficiency. Because of many herbs in this formula have antimicrobial, antiseptic, anti-Candida, anti-parasitic and astringent effects, Cleanse and Purify can help in dysbiosis (Candida-yeast overgrowth, SIBO) and chronic diarrhea.

Damp Water is an all-natural, unique, safe, and highly effective herbal remedy that consists of 12 herbs in special proportions. Damp Water herbal formula safely removes pathogenic microorganisms from the gastrointestinal and urinary tract, naturally supports digestion, immunity, and kidney function, and eliminates dangerous toxins and parasites throughout the bile and urinary tract. Damp Water may naturally help heal gastrointestinal disorders, Candida-yeast overgrowth, chronic liver problems, immune

system disorders, and aid in weight management. Some astringent herbs in this formula may lessen inflammation and reduce chronic diarrhea in *pancreatic failure*.

Biotherapy Pancreatic Herbal Formula is a unique, natural herbal remedy that has been used for many pancreatic (digestive) disorders for a long time especially in pancreatic insufficiency and pancreatic failure. Biotherapy Pancreatic Herbal Formula consists of five well-known herbs (chamomile, oregano, sage, peppermint, thyme) in special combinations. All these herbs have a long history of being used in many digestive disorders such as gas, abdominal distention, pain, indigestion, chronic diarrhea, parasites, etc.

Chamomile

Active ingredients in this herb contribute anti-inflammatory, antispasmodic, and smooth muscle-relaxing activities, particularly in the gastrointestinal tract. Chamomile is used internally for digestive upsets. It was found that chamomile relaxes the digestive system and may help to avoid stomach ulcers and speed up their healing. Chamomile suppresses inflammation and is used for relieving anxiety and insomnia. This herb can kill the yeast, fungi, certain bacteria and assists in maintaining a healthy immune system. FDA lists chamomile as generally regarded as safe.

Oregano

Oregano is a culinary herb with strong antiseptic, antispasmodic, carminative and cholagogue properties. The two important compounds that are responsible for many health benefits of oregano are carvacrol and thymol. Studies have shown that both of these compounds can inhibit the

growth of bacteria, viruses, yeasts/fungi and parasites – (Guardia), which are the main causes of many illnesses in GI tracts. Oregano is taken by mouth for indigestion, upset stomach, intestinal parasites, and yeast infections. Oregano can relieve muscle spasms and cramps, colic or spasmodic pains in the abdomen. It also stimulates the flow of bile. It has a calming effect and ensures restful sleep. The herb is considered quite useful for strengthening the immune system. Oregano has antioxidant properties that even better than of apples and blueberries.

Sage

Sage is an all-in-one herb. Over the past 2,000 years or so, it has been recommended by doctors to treat just about every known condition, from snakebites to mental illness. Sage has carminative, anti-spasmodic, anti-microbial, astringent, antiseptic, and anti-inflammatory properties. Sage has a long history of healing for gastrointestinal disorders, as well. It can be used to reduce gas and to relieve abdominal cramps, bloating, flatulence, and heartburn. It has been shown to help relax muscle spasms in the digestive tract and is officially approved in Germany for treatment of indigestion. Sage might lower blood sugar levels in people with diabetes.

Sage is a valuable carminative; thus, it has been used for dyspepsia. As an astringent herb, Sage can also be useful for healing chronic diarrhea. Sage can guard against infections and demonstrate an ability to fight against some infection-causing bacteria and parasites. It is also an antifungal and antiseptic. Sage is used for reducing overproduction of sweat and saliva. It curbs excessive sweating and may help with lower mood, nervousness, anxiety, memory loss, liver problems and is also a miracle skin cure. Sage is also used to counteract endless lists of problems in humans.

General recommendation: avoid Sage during pregnancy.

Peppermint

Peppermint is a carminative, anti-inflammatory, anti-spasmodic, anti-microbial, anti-parasite, analgesic and astringent, hepatic herb, therefore, it has been found beneficial in the healing of many GI conditions. This herb may be used in any stage of exocrine pancreatic deficiency such as *acidic pancreas and bile, pancreatic deficiency* and *pancreatic failure*.

The carminative properties of peppermint may help with indigestion, bloating, flatulence and upset stomach. Peppermint is one of the most potent herbs that alleviate nausea, vomiting, and hiccups.

As an antiseptic, peppermint demonstrates anti-Candida activity, helps to expel some worms (hookworms) and promotes healing of ulcers. It is useful in the stomach flu.

Analgesic property of peppermint helps people with any chronic cramps, colic, or pains in the stomach. Peppermint is considered as a hepatic herb that stimulates the flow of bile and helps to avoid and dissolve gallstones.

In addition to soothing the digestive tract and helping with indigestion, peppermint has been shown to help alleviate the symptoms of irritable bowel, as well.

Peppermint alleviates chronic diarrhea, possibly due to its astringent and carminative properties.

Many people use peppermint leaves, brewed in tea, for example, to relieve stomach ailments and other illnesses. Peppermint is considered an extremely safe herb. However, some authors speculate that peppermint aggravates heartburn in some sensitive individuals.

Thyme

Thyme is a well-known culinary spice and healing herb. Thyme is a carminative, anti-microbial, anti-spasmodic, astringent, anti-helminthic,

antiseptic and anti-fungal herb. Thyme, as a good carminative, is used in sluggish digestion. The anti-inflammatory and antiseptic (disinfectant) properties of thyme depend on containing thymol – a very powerful antiseptic. Before the era of antibiotics, thymol was widely used externally or internally for respiratory and digestive infections. Thyme is used for gastrointestinal problems such as stomach cramps and for upset stomach. It releases gas and relaxes the smooth muscles for colic, flatulence, and chronic diarrhea.

Thyme is considered an exceptionally safe herb.

Biotherapy Pancreatic Herbal Formula consists of Sage, Thyme, Oregano, and Peppermint. They all are culinary herbs or spices, which have been used for thousand years. These spices have a long history because first, they improve the taste of food; second, they help to digest this food without gas, abdominal distention, nausea, stomach pains, diarrhea, or constipation; third, they protect people from harmful parasites and microorganisms.

These herbs are carminative. They can stimulate the digestive system to work and promote the secretion of digestive glands including pancreas that produce pancreatic juice with digestive enzymes and liver that manufactures bile. Additionally stomach and bowels juices can be produced, as well.

All these herbs fight well with pathogenic microorganisms and parasites, which people can get from food.

During ancient times, spices were worth their weight in gold because they helped people survive in aggressive microbial and parasitic environments. Authors speculate that the great advantage of herbs in this formula is that they fight pathogenic microorganisms without affecting the friendly intestinal flora. Astringent properties of some herbs from this formula have been shown to be very helpful in cases of chronic loose stool and indigestion. Yet, chamomile is not a food spice. It is a medicinal herb with similar properties.

Herbs that the Biotherapy Pancreatic Herbal Formula consists of, as culinary spices, have been used by millions of people worldwide for a long time. Thus, these herbs proved they do not have real side effects or toxicity.

Herbal remedies are most beneficial when it is used to heal chronic, ongoing illnesses. With most chronic diseases and health challenges, pancreatic function is essential to include in any consideration. When healing chronic illness with herbal remedies, it is particularly beneficial to focus on the entire body, as the illness may involve many systems of the body at different levels.

Interesting facts at a glance:

Herbal remedies are the most ancient form of health care known to humankind

Herbal remedies use parts of different kinds of plants and herbs

Every botanical has its own action

Combinations of herbs (herbal formula) have some advantages over single herbs such as less undesirable effects and possibilities to influence on the different aspects of health conditions

Biotherapy Yin Formula may be used in all three stages of exocrine pancreatic deficiency for alleviating stress, abdominal pain, gas, insomnia, and anxiety. It is very useful during withdrawal or cravings

Biotherapy Lower Bowels Formula is an effective, herbal colon cleansing remedy that is very useful for constipation and Candida-yeast overgrowth

Biotherapy Cleanse and Purify Formula and Damp Water Formula remove toxins and parasites throughout the bile, colon, and genitourinary tract

Biotherapy Pancreatic Herbal Formula consists of four food spices and chamomile. These botanicals are very useful in *pancreatic insufficiency* and *pancreatic failure*

Herbal remedies are most beneficial when it is used to heal chronic, ongoing diseases

Chapter 36-Massage, Point Massage, Chiropractic Manipulations, and Abdominal Manual Therapy for Digestive Disorders

For individuals lacking a medical background

Mother Nature placed most of the digestive organs in the abdomen. There is constant movement inside the abdomen area. All “tube” organs constantly move food from the mouth to anus thanks to regular contractions of the smooth muscles of the esophagus, stomach, small and large intestines. All large digestive glands such as salivary glands, liver, and the pancreas produce saliva, bile and pancreatic juice accordingly and also carry their fluids throughout myriads of ducts and valves (sphincters). The lymph and blood pierce through all parts of the GI tract to supply them with nutrients and oxygen and eliminate waste material.

Anatomical Position of the Pancreas

There is a large crowd that is crushed inside the abdomen and everyone is dependent on each other. If one organ starts to move slowly or even stops, everything goes wrong and the entire digestive system suffers. Each organ needs its space to work. The most “difficult” position holds the pancreas. It

is called a hidden organ and, certainly, it is located deeply inside the stomach cavity. The pancreas is squeezed between the stomach, duodenum, liver, spleen, left part of the large intestine, aorta, inferior vena cava, and spinal column. There is really no room in this area.

By itself, the pancreas is covered by a solid capsule, so in cases of fat deposits or inflammation, this solid cover cannot expand, thus, self-squeezing occurs. The pressure squeezes the pancreas' tissue, vessels and ducts, lowers microcirculation and backs up juices.

If a person suffers from gas or constipation, the pressure inside the abdomen increases, similar to a tight cloth or belts. Squeezing of inner abdominal organs leads them to stick together causing adhesions. This, in its turn, causes more restrictions in moving.

How to Help the Pancreas in Unfavorable Situations

There are two ways for the pancreas to receive assistance. First, the abdominal organs are set in motion and second, the pressure inside the abdomen is decreased.

Bodywork uses a therapeutic applied touch to heal the body. The term bodywork refers to therapies such as massage, point massage, acupressure, shiatsu, reflexology and deep tissue manipulation and is usually employed mostly for musculoskeletal problems.

For thousands of years, people have utilized massage techniques for “moving” and stimulating proper work of all the digestive organs. Healers at that time believed that massage therapy was helpful to achieve energy flow to the abdominal region, which helps to alleviate pain and discomfort. Some certified massage therapists and other bodywork practitioners practically proved the idea that they can decrease the digestive symptoms such as nausea, abdominal distention, indigestion, constipation, low appetite, chronic

spasms, and pains. Their therapies advanced the nervous and hormonal regulation and promoted “moving” inside the abdomen.

Alleviation of digestive symptoms indicates that these therapies may improve the pancreatic function. The goal is to find the experienced professional.

A massage of the abdomen, for both men and women, is an extremely pleasurable experience. Sometimes the sides or front of the abdomen are hypersensitive, which often results in internal organ dysfunction or emotional tension. These areas respond best to deep pressure and very slow movements.

a. Abdominal and Body Self-Massage

Some experienced grandmothers taught gentle abdominal massaging to prevent the baby from crying.

Gently warm rubbing of the abdomen in a circular pattern around the navel can help regulate the digestive organs (clockwise for constipation/counter-clockwise for diarrhea).

Everybody can perform abdominal self-massaging for cramps, chronic pain, constipation, heartburn, and abdominal distention.

- Warm your hands by washing them in hot water
- Lie on a flat, firm surface and place a small pillow under your knees to take strain off the back
- Close your eyes halfway and inhale slowly and deeply
- Place your right fist fingers down on your stomach just above your navel
- Breathe in and out slowly feeling the warmth of your hand. Rub your stomach gently in a clockwise motion. Repeat it 10 times

- Place your fist on the lower edge of your rib cage on either side of your abdomen. Smoothly massage your lower torso, moving your hand down into the pelvic area. Repeat it 10 times in each area
- Move your fist in the center of your abdomen and smoothly make spirals clockwise around your navel. Repeat it 10 times

Acupressure (the process of applying manual pressure to the body's pressure points, or trigger points) has been found to be quite useful for many different conditions, including exacerbation of chronic abdominal pain, cramps, abdominal distention and constipation. Acupressure points can be located simply via anatomical landmarks that either exist underneath major muscle groups or near a bony structure. There are numbers of points that are useful for acupressure. However, consulting a knowledgeable professional is certainly advised.

At the Biotherapy Clinic, persons with digestive disorders were taught to administer self-point massage by fingertips pressing and kneading some acupuncture points. Apply steady, strong finger pressure to each of the following points.

How is a point located? Do not be concerned about the exact location of a point. Follow the pictures, move your finger to find the sensitive area and press it. Numerous techniques are used to stimulate acupressure points. The most common is to apply pressure with a finger or thumb for a 20 to 30 second period. Rest for a moment and then reapply pressure.

You may need to do this several times until the sensitivity in this area decreases. Another method is to tap the point sharply with the index finger. Don't apply self-acupressure in case of pregnancy, bleeding, acute conditions, cancer or infections with temperature.

There are some common acupuncture points, which can be recommended for acupressure in almost all GI problems.

Point He Gu (LI 4) is called the “point for 100 diseases above the waist” and it practically proves its name. You can search images of He Gu LI 4 in internet. This trigger point is the fleshy area between the thumb and index finger, where the bones meet, and it is sensitive, with a dull ache, when you press down on it. It can also be located at the highest spot of the muscle when the thumb and index fingers are brought close together. Hold for 30 seconds while breathing deeply, switch hands and repeat.

A second point to enhance the effectiveness of acupressure healing is **Zusanli (St 36)**, called “point for 100 diseases below the waist” and evidence proves this title. You can search images of Zusanli St 36 in internet.

Stomach 36 is considered one of the most powerful points in the body. Zusanli is helpful for any digestive disorder and can be used also to enhance immune system and overall energy levels.

To find Stomach 36, place four of your fingers together at the lower outside edge of your knee cap.

This acupressure point is located between the outer edge of your shinbone and your leg muscle, where your fingers and shinbone meet. Apply pressure to the area (see the picture), focusing the pressure on the most sensitive spot you find. Use your pointer finger and middle finger to gentle rub in small circles. Acupressure should be applied to both sides of your body on these points.

Neiguan (P 6) is a specific point on your wrist that focuses as a “morning sickness and motion sickness point”.

Some scientific dates confirm that acupuncture, pressure and electric stimulation of this point relieve the nausea and vomiting in pregnant women,

people with seasickness or nausea after chemotherapy and radiation.

At the Biotherapy Clinic, it is recommended to use this point for acupressure in anxiety attacks, spasms and cramps on the upper abdomen, any kind of pain, insomnia, heartburn and, certainly, in nausea while combining a deep breathing technique.

First, find this acupressure point on the inside of your wrist. You can search images of

Neiguan P 6 in internet. Measure three finger widths up your arm, from the wrist line. Use your thumb to locate the point in the hollow between the two bones and in the middle of the tendons. A slight soreness will let you know you have found the right location. Press the point firmly while concentrating on your breathing.

Ancient oriental doctors recommended combining Neiguan (P6) point with Gongsun (Sp 4).

Gongsun (Sp 4) is located in the middle of the foot arch at the end of the big toe bone below the bulge on the side of the foot. You can search images of Gongsun Sp 4 in internet.

Feel around in this area for the most sensitive point and apply firm pressure with your finger. Acupressure of combining P 6 + Sp 4 is useful for stomachaches, nausea, vomiting, digestive disorders, gas in the colon, pain in upper and lower abdomen, diarrhea, edema, insomnia and fatigue.

Sanyinjiao (Sp-6) is one of the most versatile and most commonly used points in the digestive disorders. Sp 6 point can help with abdominal distention, chronic pain or cramps in the upper stomach area, diarrhea, insomnia, and headaches. You can search images of Sanyinjiao Sp-6 in internet.

This point is four fingers widths above the inner anklebone, on the inside of the shin, just behind the main shinbone (tibia). The area will be tender in the

correct spot than the surrounding area. You can apply firm pressure for about one minute on each leg and slowly release. As always, it is usually best to receive acupuncture first and ask your acupuncturist, which points would be recommended for your condition?

Two acupressure points on the abdomen, **Zhongwan (Ren12)** and **Qihai (Ren 6)** are used to alleviate indigestion and heartburn. You can search images of Zhongwan Ren12 or Qihai Ren 6 in internet.

The point Ren 12 is on the mid-line of the body, halfway between your breastbone's base and belly button. Ren 6 is two-finger widths under the belly button. Ren 12 specifically helps with heartburn whereas Ren 6 alleviates abdominal pain, bloating and constipation. Wait for two hours after eating before using these points. Massage these points for two minutes.

Liangmen (S 21) point is commonly used for stomachaches, vomiting, distention of the abdomen, anorexia, and loose stool. You can search images of Liangmen S 21 in internet.

This point is located on the level of the Zhongwan (Ren 12) four-finger widths to the side of the abdomen.

Tianshu (S 25) is located on the level of the belly button, four-finger widths to the side just below Liangmen (S 21). This is one of the important points of massage for abdominal distension and pain, constipation, diarrhea and overweight issues. Massage these points for two minutes.

At the Biotherapy Clinic, we recommended using the Su-Jok Korean system for massaging the hand points for acute and chronic pain, cramps, nausea, and vomiting.

For simplicity, use the picture of correspondence of abdominal organs with palm areas for massage from Su-Jok in the [Chapter 34-Acupuncture and](#)

[Pancreatic Disorders](#). Rub vigorously these areas for 30 seconds by the thumb, and then change the hand. Repeat 3 times twice a day.

For individuals with a medical background

b. Abdominal Manual Therapy

Manipulative therapy has a history extending back at least to Hippocrates. “Bonesetters” and other healers all over the world used manipulation believing “displaced” bones caused various disorders. Today, chiropractors, osteopathic physicians, physical therapists, acupuncturists and others employ manipulative therapy all over the globe. An overwhelming accumulation of scientific and clinical evidence has supported the idea that bodywork is beneficial not only for musculoskeletal but also for digestive problems.

Many practitioners use various trigger or acupressure/acupuncture points to enhance the functioning of the abdominal organs. Less known in recent times but still valuable are techniques that aim to massage and activate various internal organs directly. Some of the practitioners of these techniques believe that repositioning of the internal organs is a proper way to improve their functions.

Almost all digestive organs can be divided as either solid or hollow. The stomach, gallbladder, small, and large intestines are hollow organs, which are surrounded by smooth muscles that constantly move internal content. The liver and pancreas are typical solid organs and are surrounded by a strong and non-expandable capsule. Persistent motion inside and outside the digestive organs is essential for a healthy condition.

Breathing with active contraction of the diaphragm, maintaining an active lifestyle and proper nutrition promote healthy motion of digestive organs and a normal state of smooth muscles inside them. On the other hand, immobility, injuries, surgeries, scars, infections, parasites, food allergies, accumulation of fluid in the abdominal cavity and chronic inflammation can result in adhesions where layers of tissue are becoming glued together. Alcohol, drugs, toxins, and fat deposits harden the liver and pancreas and restrict their movements. Negative emotions and emotional stress can suppress the normal motion inside the abdomen, as well.

Restriction of motion causes internal organs to form adhesions - internal scar tissue. Inner organs can become stuck together and inhibit their movements even more.

Various techniques were promoted to reposition the inner organs and break up adhesions. The modern name of these techniques is visceral manipulation or visceral chiropractic. Compression of internal organs can improve functioning. In all cases, it is important to be gentle and not exceed the patient's tolerance. Evidently, visceral manipulation does not fix everything that is wrong but can often create remarkable results.

The original form of visceral manipulation takes its roots in folk medicine, where it had been used for centuries to restore balance in organs and tissues after injuries and traumas. French doctor and osteopath Jean-Pierre Barral carried out modern day research and scientific justification for visceral manipulation.

One effective but very gentle approach to support visceral healing is by neurovascular reflexes. These were developed by Dr. Terence Bennett, a chiropractor, in the 1930's. He treated patients by a very light touch to various reflex areas, while at the same time using the other hand to stretch the upper trapezium area.

At the Biotherapy Clinic, the authors use different techniques for chronic gastrointestinal ailments after ruling out serious conditions such as cancer, internal bleeding, ascites and acute abdomen – peritonitis. More often, the

fingers or hands technique is called abdominal manual therapy. Manus means "*Hand*" in Latin.

The person usually lies down on their back, on a massage table with a pillow under his/her knees. Percussion by tips of the fingers reveals the sensitive trigger points. Fingers apply gentle constant pressure on the sensitive area as deeply and strong as the patient's tolerance allows.

Pressure continues 30 – 60 seconds and then the position of the fingers is changed. In many cases, pain decreases or vanishes and pressure is applied on the other sensitive area. Due to this simple procedure, the work of the sick organ can be improved or restored. The main mechanisms of abdominal manual therapy may include:

- > Decreasing adhesions, which surrounded the sick organ
- > Improving microcirculation in the treated area
- > Decreasing "blockage" inside the organ
- > Enhancing the neurohormonal regulation of organ



The ideal healing benefit of this technique is obtained in functional stages of diseases such as *acidic pancreas and bile*. Pain alleviation, improved digestion and decreased diarrhea and constipation are all positive results for many disorders that are included in the *pancreatic deficiency* stage of exocrine pancreatic deficiency.

A few areas are very important to provide abdominal manual therapy. They include the pyloric valve, Sphincter of Oddi, pancreas, gallbladder, ileocecal valve, sigmoid, etc. During this procedure, the patient may feel and hear “movement” inside the abdomen and may want to pass gas. Often, by using the stethoscope, the practitioner can listen to more peristaltic noises after the procedure.

With careful patient's assistance and understanding the healing process, abdominal manual therapy is usually a safe and effective technique that can be done alone or as a part of an acupuncture or other healing program. Combining this procedure with healing exercises enhances positive results.

Hiatal hernia is a common problem when a portion of the stomach or stomach contents are allowed up through the diaphragm into the chest cavity. Hiatal hernia can trigger stubborn heartburn. Dr. Bruce West, DC offers a practical manual approach to Hiatal hernia that is described at http://www.healthalert.com/t-article_Archives.aspx#gas.

Interesting facts at a glance:

All digestive organs contact with each other and are constantly in motion

Persistent movement inside and outside the digestive organs is essential for a healthy condition

Breathing with active contraction of the diaphragm, stress alleviation, maintaining an active lifestyle and proper nutrition promote healthy motion of the digestive organs

Many factors may suppress the motion of internal organs such as immobility, injury, surgeries, infections, parasites, food allergies, and inflammation

Alcohol, drugs, toxins, and fat deposits harden the liver and pancreas and restrict their motions

Negative emotions and emotional stress can suppress the normal activity inside the abdomen

Either enlargement of the liver or pancreas, overweight issue, constipation, gas, or very tight cloth may increase pressure inside the abdomen and squeezes the internal organs

No motion can result in adhesions: layers of tissue becoming glued together

Even in normal conditions, the pancreas is suppressed by surrounding organs

Due to adhesion, inflammation and high abdominal pressure, the pancreas suffers first and consequently influences the normal pancreatic work of the digestive system

Various techniques were promoted to reposition the inner organs and break up adhesions

People can perform some of these techniques by themselves, but it is ideal to have an experienced health professional for treatment and supervision

The ideal healing benefit of abdominal manual therapy is obtained in the functional stage of diseases such as *acidic pancreas and bile*

Abdominal manual therapy may lead to pain alleviation, improved digestion and decreased diarrhea/constipation in many disorders that are included in the *pancreatic deficiency* stage of exocrine pancreatic deficiency

Chapter 37-Therapeutic Exercises

For individuals lacking a medical background

Many chronic disorders of the pancreas are accompanied by fatigue, low energy, depression, sadness, and anxiety, which, unfortunately, make a person not prone to physical activity. Sitting on the job and watching TV or performing computer work at home are not helping digestion, as well. Some chronic gastrointestinal problems such as gas, bloating, cramps, pains,

diarrhea, or constipation do not make people stronger and these symptoms are not motivations for going to the gym.

There is a vicious circle:

Fatigue => sedentary lifestyle => more digestive problems => more fatigue, and so on

Exercising at the gym is not only one solution for better pancreatic function. In case of chronic pancreatitis, lifting heavy weights makes it even worse. However, movement and exercises are a huge part of healing from all digestive disorders and particularly helpful for the pancreas.

Every person needs motivation. Various movements and exercises can include walking in the park, working in the backyard, dancing, swimming, and, certainly, home exercises. The main reasons for participation in the physical activity and exercises are fun, improved physical appearance, greater sexual performance, and health.

a. Recommendation for Performing Exercises

For the first step to physical activity, the patients are advised to take a pedometer and make notes of its data every day. Other recommendations:

- Avoid tight cloth, belts, jeans, and bras during physical activity
- The best time for activity is in the morning on an empty stomach after drinking 2 cups of Karlovy Vary Healing Mineral Water
- Heavy lifting, jumping and playing in traumatic sports are not recommended for digestive problems. Use common sense, if you do not feel well, decrease, stop, or take a break in the activity performed
- The worse the condition is, the more symptoms require effortless and longer exercises such as walking. Fewer symptoms allow for more strength

and activities. Listen to your body!

- Exercises should always be performed in a quiet and calm atmosphere
- All physical activity or exercises require deep breathing. When our breath is full and deep, involving not only the respiratory muscles of the chest but also the diaphragm, abdomen and lower ribcage, we begin to breathe more slowly, since each breath takes in more oxygen and releases more carbon dioxide
- Before any changing in physical activity, obtain the advice of your licensed health provider

b. Exercises Have Tremendous Impact on Organs and Systems

Heart and Vessels: Exercises enhance the oxygenation of blood and effective removal of toxins from the circulation system. The heart also receives this benefit and promotes stimulation of blood circulation in all the organs. The heart attains greater strength and works at an optimum level. Heart diseases and blood pressure reduce as a result of this cardiac efficiency.

Digestive Organs Including the Pancreas: Exercising the diaphragm and abdominal muscles gives the stomach, pancreas, liver, gallbladder, small and large intestines a soothing deep massage. By improving the microcirculation, all digestive organs receive much more oxygen and nutrients; therefore, operate optimally. Exercise facilitates digestion and effective assimilation of undigested food. Exercise lessens adhesion in the abdominal cavity and reduces blockages, backups of fluids and inflammation.

Nervous System: The cells of the central nervous system need plenty of oxygen to be strong and happy. They require three times more oxygen than the rest of the body. Exercises with slower breathing merged with the

rhythmical changes of the pressure inside the abdomen and contraction of the diaphragm and belly, help turn on our parasympathetic nervous system (PNS) in a “relaxation response.” Exercise helps to harmonize the nervous system and reduce the amount of stress in our digestive system.

Lungs: With age, the rib cage and surrounding muscles become inflexible causing breathing to become more shallow and difficult. Decreased flexibility and weak muscles cause collection of some air in the lungs and prevent fresh oxygen from reaching the bloodstream. The diaphragm is a domeshaped muscle that not only assists in breathing, but also acts as a natural massager of abdominal internal organs. The strong diaphragm muscle protects the body against respiratory problems, which often accompany pancreatic disorders. Massaging action of the diaphragm decreases adhesion and lazy movements of the stomach, liver, gallbladder, pancreas, and small and large intestines.

The strongest muscle in the body is the diaphragm, the muscle that separates the chest from the abdomen. A strong, working diaphragm is a key for digestive (pancreatic) health. Many cultures in the world implement deep abdominal breathing in the religious, healing and martial arts activities. It is estimated that up to half of all Americans over age 60 may suffer from a hiatal hernia (diaphragm strain). A large number of people with hiatal hernias have pain in the stomach and reflux. Some of them suffer from the heart and circulatory problems as well, all caused by the weakness in the diaphragm. People with hiatal hernias may complain of fullness, bloating, heartburn, nausea, left side pain, breathing, and heart problems.

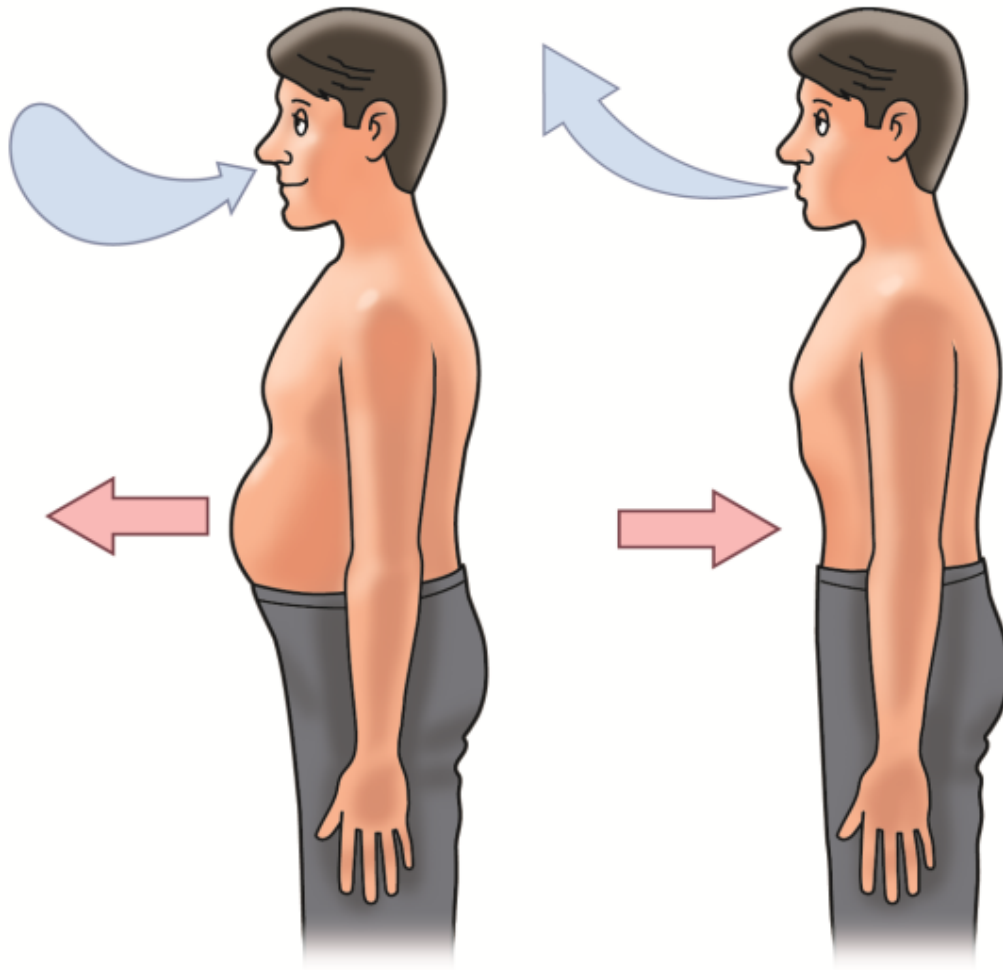
No doubt that deep diaphragm breathing, is a simple way to promote pancreatic function and can be advised to all individuals whether they are healthy or sick

Many people don't comply very well at the beginning of exercise involvement. They don't understand the necessity of an exercise program for

digestive health. “I don’t have a time to go to the gym”, “I feel shy to go to the gym to show my belly to everyone”, “Crunches and sit-ups cause me pain”, “I’d rather do something with my diet” are all typical excuses people use to prevent exercising. Doctors and medical practitioners require some skill to convince individuals to exercise and self-heal. A few important things may change people’s minds including increased attraction, improved sexual activity, and overall health.

Big Belly/Small Belly Exercise

A big belly means big trouble for beauty, sexual activity and health overall. The first step is to focus on the big belly. At the Biotherapy Clinic, we teach our patients to perform ***Big Belly – Small Belly exercise*** first. A person does not need go to gym, carry a sport clothes and choose a convenient time for the exercise to do this very useful and somewhat funny exercise for improved beauty, sexual activity, and health. You can perform the *Big Belly – Small Belly exercise* anywhere, anytime and in any position. You need only one important thing – to remember to do it!



Make a big belly as much as you can by pushing your belly out of your spine and holding that position for a few seconds. Then, make your belly smaller by pulling your belly button into your spine and holding that position for a few seconds. Congratulations, you have done one set of the *Big Belly – Small Belly exercise*.

For beginners, it is recommended to perform 50 sets per day, as 10 sets x 5 times.

You can perform the exercise by sitting on a chair and working on your computer at your job, (you can put a sticker on the screen that will remind you to do it). You can do it in the morning shower or when washing your hands after using the restroom.

You can perform it while watching TV, playing videogames, walking, or performing household chores.

Just perform this exercise slowly, 50 times a day. Throughout the month, increase numbers of sets to 100 a day. You will see positive changes in your body compositions, sexual activity, energy levels and, what is most beneficial, your digestive health.

You can enhance the positive results of the *Big Belly – Small Belly exercise* by a simultaneous abdominal massage. Put your fist on your belly button and make a clockwise spiral massaging motion. Spiral massaging movements have to reach all stomach areas. The Big Belly – Small Belly exercise is recommended to combine with pelvic muscles contraction, as well (modification of Kegel exercises). This combination allows you to improve function of the upper and lower digestive organs together.

Performing Kegel Exercises

Squeeze your buttocks, urethra, and anus in the manner, as you want suddenly to stop urination. Hold them squeezed and simply breathe through a slightly open mouth twice. You have done one Kegel exercise. Do it altogether 50 times a day at times convenient for you. You can perform Kegels while driving, showering, sitting, or even talking to your supervisor. Nobody will see what you are doing. So, just do it.

We call this combination of 50 *Big Belly – Small Belly exercises* with 50 Kegel exercises as “Fifty/fifty” and, certainly, almost 100 percent of people can see improvement in losing weight and shedding of belly flab, improving libido and sexual sensation, increasing energy and decreasing digestive disturbances such as heartburn, cramps, pains, gas and constipation.

A smaller belly means improved pancreatic health and consequently better digestion

For people who regularly work out 2-3 times a week and have digestive problems, it is advised to put more attention on abdominal muscle exercises besides just perform cardiovascular and weight training activities.

c. Cleansing the Entire Gastrointestinal Tract by Drinking KVHMW and Exercises

For individuals who regularly drink Karlovy Vary Healing Mineral Water (KVHMW), we recommend walking during or after consumption of this remedy.

In the *acidic pancreas and bile* stage, drinking Karlovy Vary healing water may be used to clean the entire gastrointestinal tract from the mouth to the anus. Afterwards, simple exercises can be performed to force the water through the gastrointestinal tract until released. People perform these exercises until the formation of stool. This cleansing approach not only detoxifies the body, but also stimulates the functioning of the liver, gallbladder, stomach, pancreas, and intestines.

For preparing 1 quart (4 cups) of 0.5% solution, use 1 teaspoon of genuine Karlovy Vary mineral salt in 3 cups of clean, purified water and 1 cup of carbonated water (seltzer or club soda).

The most ideal time for cleansing is in the morning on an empty stomach. The whole procedure normally takes one hour. At first, slowly drink 4 cups of KVHMW and immediately perform the exercises (see pictures below). Repeat each exercise 6 times and go to the restroom. Usually you will have a

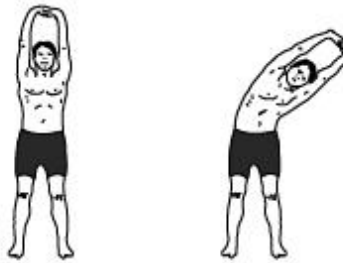
bowel movement following the exercises. After the first bowel movement, the stool will be soft and even loose.

If you have the first bowel movement, drink another cup of the water and perform the exercises 3 times. Then, go to the restroom. Repeat this process until you drink 8 cups of the water altogether. If you do not have the first bowel movement, repeat the exercises 3 times without drinking the water. If you still do not have a bowel movement, an enema can be extremely useful. Then, the process of passing stool will usually continue by itself.

If you become nauseous during the beginning of the procedure after 4 cups of KVHMW, stop drinking water and perform 2-3 additional exercise cycles. It can be helpful to massage the abdomen in a clockwise direction. After the procedure, it is not recommended to drink or eat for 1 hour. Cleansing the entire gastrointestinal tract can lead to better digestion and weight loss.

Exercises:

Exercise #1

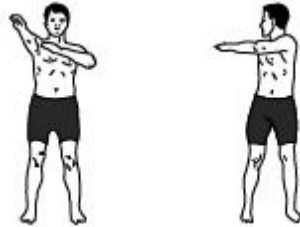


- Stand upright
- Place feet flat on the ground 1 foot apart
- Raise your arms straight overhead, fingers squeezed together and palms facing the ceiling

While breathing gently, in one continuous motion, side-bend as far as possible to the left without pain and then as far as possible to the right

without pain (see picture). Do not twist and do not hold the side-bends. Repeat the side-bends 4 times in each direction, completing in approximately 10 seconds. This exercise opens the valve between the stomach and the first section of the small intestine.

Exercise #2



- Stand upright
- Place feet flat on the ground 1 foot apart
- Stretch out the right arm horizontally in front of the chest
- Bend left arm towards chest and place left thumb and index finger on the right clavicle
- While breathing gently, in one continuous motion, twist the torso as far as possible to the left without pain and then as far as possible to the right without pain. During this exercise, look at the fingers on the right hand, and do not hold the twists (see picture). Repeat 4 times in each direction, completing in approximately 10 seconds. This exercise pushes the water into the small intestine

Exercise #3



- Lie face down on the floor in a straight line, similar to the Cobra stretch in Yoga
- Place feet 1 foot apart

- While breathing gently, in one continuous motion, twist your head and torso to the left without pain until you see your opposite heel and then twist your head and torso to the right without pain until you see your opposite heel (see picture). During this exercise, arch your back while twisting and do not hold the twists. Repeat 4 times in each direction completing in about 15 seconds. This exercise moves the water into the last section of the small intestine

Exercise #4



- Bend your knees and squat down, keeping your heels on the ground and placing your weight on the balls of your feet

- Place your hands on your knees and place your feet flat on the ground 1 foot apart

- While breathing gently, twist your torso as far as possible to the left without pain while placing the left knee on the floor at the same level as the right foot. During the twist to the left, use your right hand to push your right knee to the left side while keeping the right foot flat on the floor (see picture)

- Return to the starting position. Twist your torso as far as possible to the right without pain while placing the right knee on the floor at the same level as the left foot. During the twist to the right, use your left hand to push your left knee to the right side while keeping the left foot flat on the floor. During this exercise, look behind on each twist, and do not hold the twists. Repeat 4 times in each direction completing in about 15-20 seconds. This exercise moves the water into the large intestine

Exercise #5

- Stand upright
- Place feet flat on the ground 1 foot apart
- Place the palm of your left hand on your navel
- While breathing gently, conduct a circular abdominal massage clockwise around the belly button
 - . Starting with small circles, gradually make them larger, finishing with small circles. Perform the massage for 30 seconds with the left hand and then for 30 seconds with the right hand

d. Role of Physical Activity and Special Healing Exercises in the Pancreatic Disorders

For individuals with a medical background

For persons with any stage of exocrine pancreatic disorders, physical activity and special healing exercises are essential parts of a healing program. Doctors, physical therapists, chiropractors, registered nurses, acupuncturists, and other health care professionals have to use their skills to convince and involve patients to participate.

A number of benefits from regular, moderate exercise may include:

- * Reducing mental and physical stress
- * Increasing endorphins (the feel-good neurotransmitters in the brain)
- * Diminishing anxiety, depression, irritability, and mood swings
- * Stabilizing serotonin in the gut
- * Increasing circulation, which increases blood and lymphatic flow

- * Improving digestion
- * Increasing metabolism and helping to keep weight normal
- * Boosting the immune system
- * Lessening the adhesions between abdominal organs
- * Promoting motility of the GI tract

In the *acidic pancreas and bile* functional stage of GI disorders, exercises combining with other nondrug approaches are a safe and an effective way to improved health.

In 2005, Levy RL *et al.* published in *Clinical Gastroenterology and Hepatology* their study about the relationship between GI symptoms including irritable bowel syndrome (IBS) and physical activity. [204] Those researchers discovered that increased physical activity was associated with fewer GI symptoms. This shows that a healthy lifestyle is an important part of overcoming abdominal pain, diarrhea, and other intestinal woes.

Possible diseases and conditions associated with the *acidic pancreas and bile* stage: functional dyspepsia, biliary dyskinesia, GERD, Sphincter of Oddi Dysfunction type III, irritable bowel syndrome (IBS), Intestinal Dysbiosis (Candida-yeast overgrowth), Metabolic Syndrome, fatty liver and pancreas, etc.

In all these conditions, metabolic acidosis causes biochemical changes in the pancreatic juice and bile and decreases their activity that leads to indigestion, functional spasms of smooth muscles, intestinal dysbiosis, etc. Activity in general will increase the activity of the gastrointestinal tract. Even gentle exercises help the smooth muscles of the bowels to return to a pattern of regular contractions. Exercise is especially useful for constipation. It does not have to be strenuous exercise: walking, simple stretching, or gentle yoga movements may help alleviate constipation-predominant IBS.

Stress is a key trigger of irritable bowel symptoms. Regular exercises are proven to enhance moods through the release of well-being hormones known as endorphins. In fact, regular fitness workouts are an essential part of any

stress management program. Exercises boost the immune system, which is crucial to combat Candida-yeast overgrowth, as well.

In the *pancreatic deficiency* stage, moderate physical activity has to be a part of the recuperation program, even as the structural damages to the pancreas may appear. Some practitioners are particularly concerned about exercises exacerbating the condition especially in case of chronic pancreatitis and pain.

In 2000, Minato K *et al.* conducted interesting research. [205] The Japanese scientists experimentally showed that regular physical exercises increase pancreatic protein content and basal amylase secretion. They also demonstrated that chronic endurance exercise increases pancreatic weight, protein content and enzyme activity through hypertrophy of acinar cells.

Clinical experience confirmed this finding about positive connections of physical activity and pancreatic functions. Doctors from the UK, Sareen S. and Kumari V. (2006) accomplished a study to determine the effectiveness of yoga in management of pain in patients with chronic pancreatitis. Findings suggest that yoga is effective in decreasing self-perceptions of pain and anxiety in this population and reducing their consumption of pain medication.[206]

Gentle breathing and stretching exercises combine with some other nondrug approaches such as massage, visceral manipulations, acupuncture, herbal and nutritional medicines, dietary changes and drinking Karlovy Vary healing mineral water may help to alleviate and stabilize conditions even in patients with *pancreatic failure*.

Interesting facts at a glance:

Exercises have a tremendous impact on various organs and systems

Exercises of the diaphragm and abdominal muscles give the stomach, pancreas, liver, gallbladder, small, and large intestines a soothing deep massage and improve the microcirculation

Exercises lessen adhesion in the abdominal cavity, backups of fluids, inflammation and reduce blockage

Deep diaphragm breathing is an easy way to facilitate pancreatic function

50 *Big Belly – Small Belly exercises* and 50 modifications of Kegel exercises - “Fifty/fifty” - are very simple and the perfect way to start

“Fifty/fifty” exercises help with losing weight and shedding of belly flab, increased libido and sexual sensation, more energy and less digestive disturbances such as heartburn, cramps, pains, gas, constipation, etc

For people who regularly drink Karlovy Vary healing mineral water, it is recommended to walk during or after consumption of this remedy

In the *acidic pancreas and bile* stage, drinking Karlovy Vary healing water may be used to clean the entire gastrointestinal tract from the mouth to the anus

Exercises are very beneficial for functional digestive disorders such as IBS and dyspepsia

In the *pancreatic deficiency* stage, moderate physical activity has to be a part of the recuperation program

Gentle breathing and stretching exercises may help to alleviate and stabilize conditions even in patients with *pancreatic failure*

Chapter 38-The Mind / Body Connection and Pancreas

For individuals lacking a medical background

Our bodies are phenomenal, intricate instruments for which only Mother Nature has the blueprints. Every year we learn more about the human body, its functions, and how body's parts work together. The Mind – Body connection is a unique factor for our health and longevity.

The body does what the mind says

The concept of mind over matter is not new.

Many people know how the mind affects their mood, heart, sex and immunity, but not so much about how the mind influences proper digestive health. Some people find this surprising, but, without a doubt, the digestive system is strictly connected to emotions and thoughts. When a person feels nervous, anxious, afraid, and angry or he/she is overwhelmed from hectic life, one of the places in the body that takes the burden of those strong feelings is the gastrointestinal tract.

Everybody knows that before some tests, job interview or after scary news, anxiety may cause diarrhea. Butterflies in the stomach or a stomach tied in knots are common ways to describe a feeling in stressful situations. In another example, some people cannot use public restrooms, which can lead to vocational or traveler constipation. Furthermore, extreme stress can bring on real digestive symptoms, like diarrhea, abdominal cramps/pain, nausea, or vomiting. The combination of depression and constipation is a well-known medical fact.

One of the reasons why stressful emotions can lead to digestive issues is that the digestive system is rich in nerve branches, and it is highly influenced by the nervous system. The largest area of nerves outside the brain is the gastrointestinal tract. For this reason, neurobiologist Michael Gershon, MD refers to the GI tract as “the second brain.” He considered that the “gut has a mind of its own” and well documented his point.[336]

The functions of the GI tract are under control of the autonomic nervous system; therefore we cannot voluntarily regulate these functions. The autonomic nervous system in the GI tract operates much like the central nervous system by exchanging information with nervous cells and by using chemical messengers (neurotransmitters). The autonomic nervous system uses common pathways along sympathetic and parasympathetic nervous systems.

Stress also influences the entire digestive system by blood messengers (hormones). Because of stress, the body is flooded with “fight or flight” hormones, like cortisol and epinephrine. These hormones among other things, lower gastrointestinal secretions and redirect blood flow from the digestive tract to the head, heart, lungs and muscles in order to prepare the body to take action as “fight or flight”.

This reflexive mental response served people well in the past when stress usually came from a predator, like a tiger in the forest. The brain, heart, lungs and muscles were vital to save the human body in this dangerous situation. However, today there are remarkably different “predators”, which cause the stress by influencing our life: money issues, health, job, relationships at work or home, dealing with the death of a loved one, sexual problems, everyday commute, etc. These negative or sometimes, even positive mental stresses, lead day after day to the same chemical assault in

the body that can compromise the body's physical, mental and emotional well-being.

Stress can lead to insomnia, anxiety, depression, headaches, hypertension, heart attacks, and muscle pains, but it can also contribute to numerous digestive disturbances. While stress can cause digestive system problems such as gas, bloating, cramping, abdominal pain, diarrhea and constipation, from another hand, it cannot only cause physical discomfort, but also poor emotional health. Contrary, incorrect eating habits and poor digestion may be the reason for deficiencies of vital nutrients that add more chaos in brain chemistry. In turn, this causes depression, panic attacks, insomnia and nervousness. In addition, when people feel stressed, anxious, or upset, they may not take care of their health as well as they should do.

Stress => Digestive Disorders => Stress

This is a vicious cycle and your digestive health is the victim. That is why, it is crucially important to find a way to handle the mental stress so it does not negatively affect the digestive system or complete well-being.

It is difficult to focus on all aspects of the relationships of the mind and body in this book; hence it will focus only on a few points regarding pancreatic health.

The United States is the nation of cars. Anything related to a car is essential and understandable to its users. Suppose you are given a vehicle, and you are told this is the only vehicle you will ever own. In other words, this vehicle must last you the rest of your life and other than a few replacement parts here and there, it is your responsibility to keep it. What kind of service would you decide to administer? How would you drive it or otherwise use it? In a similar analogy, you will only have one body per lifetime. Food is

the fuel. Are you going to use the superior quality fuel, or the quick and cheap fuel? Everybody knows that good gasoline means good car performance. Like gasoline, what you eat, how you eat, and the amount you eat will contribute to how well your body performs. It will also show how long and how well, your organism serves you. As mechanics know, a little noise may be an indication for huge problems. Thus, even slight digestive symptoms may lead to future serious problems.

A healthy diet is a key for proper digestion. You know what is healthy and what is unhealthy, and you are ready for positive changes. However, you think:

- > “I feel good so far, I will wait until I have a problem”
- > “My friend is overweight. She eats ice cream and does not have health problems. I will eat ice cream and candy too”
- > “I will start eating better after vacation, or after the upcoming holiday, on Monday, next year, etc”
- > “I cannot live without bread, pizza, chocolate, beer, ice cream, soda, etc”

Two thoughts may change your behavior: good or bad, positive or negative. In our mind, we have positive and negative points of thinking (sort of like an “angel” and “devil” inside the mind, as depicted in cartoons and movies, and they fight with each other all day long). Below, there are examples of positive or negative thoughts, which may change behavior.

Positive thought examples: “I have to look more attractive”, “My friend eats healthy, and she lost 10 pounds so I will also eat healthy”, “My uncle lived until age 103 and I want to live just as long”, “I can control my health and I will start doing it now”, etc.

Negative thought examples “I am fat, I have a big belly, and my girlfriend doesn’t love me anymore”, “My doctor told me that I have diabetes, ulcers, cancer, etc” “I cannot”, “It is impossible”, “I will die anyway”, etc.

Positive messages work well. In many situations, we can behave as big kids. A mother tells her child “You are bad because you did not put your toys in the place. You will be punished”. In many situations, this negative message does not work and “bad” children will not put their toys in the proper place. On the other hand, the mother may say, “Oh, you are so good today. You helped your mom. I love you”. Practice shows that the positive message works better.

There are many ways to help the “angel” in your mind. First, knowledge is power. Positive medical information has a unusually positive impact on human behavior. Second, the positive influence of another person or group of people also is beneficial.

However, everybody knows that changes (especially changes in the lifestyle) are a particularly tricky issue. Simply put, everybody wants to be healthy, but most people are lazy and cannot commit to a serious and time enduring lifestyle change. Human behavior often resists changes. How can we help those people, who want to help themselves and get back to a healthful diet and lifestyle, which are necessary to digestive health and well-being?

At the Biotherapy Clinic, the authors use various combinations of techniques that can positively change someone’s mind such as suggestion, relaxation, hypnosis, and self-hypnosis by using custom hypnosis CDs at home. To enhance these techniques, the authors also widely combine them with acupuncture, electro acupuncture, magnet therapy, infrared light, herbal therapy, massage, herbs, brochures, etc.

We use information, explanations, examples and more, to make a person make a decision and take responsibility for his/her health.

Involving individuals in taking care of their health is a main key

From childhood through adulthood, many people are used to placing responsibility for everything in their life on someone else: a mother, father, teacher, spouse, friend and, certainly, on a doctor or medical provider. For example, some people will take month-by-month pills and undergo serious surgery, rather than taking responsibility and changing lifestyle or eating habits. Changing their mind and attitude is a difficult task.

At their practice, the authors, as a rule, use only positive suggestions without negative words such as "bad", "never ", "don't", "won't", "disease", "death" or "for the rest of your life." We totally avoid scary tactics but use positive repetitive suggestions before or in the time of relaxation or hypnosis.

Frenchman Emile Coue (1857-1926) was an advocate of hypnosis near the turn of the 20th century. Coue felt that the patient's own resources were most influential in healing, and thus, he was a pioneer in the area of autosuggestion. He would have his patients engage in affirmations, repeating mantras such as "Every day, in every way, I feel better and better" twice a day. Coue's ideas foreshadowed the view that medicine should be increasing attention on the patient's ability to heal him/herself.

Positive repetitive suggestion by the practitioner and self-suggestion by the patient are huge triggers for the self-healing process.

Acupuncture also has a long history of use in anxiety, depression, insomnia and stress due to increasing of well-being hormones in the brain. Warmth, a quiet room, a convenient position, infrared lamp, magnet therapy, and acupuncture combine with the power of suggestion to help the person relax and tune the mind on positive implications.

Author Felix Melamed helped many people change their lives by using hypnosis and hypnotherapy. Many of his clients realized that it was impossible to induce changes by simply using their willpower; therefore, they were helped by hypnosis and hypnotherapy.

Why do many people fail when it comes to quitting smoking, losing weight or learning to deal with phobias and anxiety? The answer is complex, yet it is easier than people believe. The way of thinking needs to change. If people on weight loss do not change the way they think and only rely upon diet pills, most of them gain everything they lost as soon as they stop taking the pills. It is also significant to realize why a person wants to change and then convince him or her on the subconscious level to do so. Oh, the proverbial subconscious mind; why is it given to us? What does it do? Simply speaking, it does not do much. It learns from and records everything we encounter in life.

After September 11th, 2001, there was an influx of people scared of flying. Many people, including those who never had the trouble before, persuaded themselves that it was unsafe to fly. The information was stored in their minds on the subconscious level and when they thought about taking another flight, many were experiencing signs similar to a panic attack. Many of us experience similar symptoms daily and are unable to deal with the overbearing supervisor, stress, public speaking and driving on highways just to name a few.

Weight loss is similar. Overeating is a learned behavior. Eating at night is a learned behavior. Laziness and unwillingness to exercise are both learned behaviors. Try to change them and your subconscious mind tells you “No. This is the way it has been for a month (year, 5 years, 10 years, etc.), so, why change now?” Then it starts sending the person signals to stop the new way of life via discomfort, moodiness, cravings, excuses, and denial.

The good news is that behaviors can be changed. Hypnosis and hypnotherapy have been known to help people change their behaviors for many years. When people are relaxed in the hypnotic trance, positive

suggestions are given to change the old, unwanted ones. What is required of a person is to know why and what he/she wants. It is known that hypnosis and hypnotherapy only work when it addresses a PERSON'S SPECIFIC PROBLEM and presents IN HIS/HER OWN WORDS.

For this reason, at the Biotherapy Clinic people explain their problems and goals in writing without medical terminology and then their own words are used for proper suggestions. Besides the implementation of hypnosis and hypnotherapy in the office, there is another method that Felix Melamed uses: recording custom CDs and mp3s so that individuals can bring about the changes in the privacy of their own homes.

Nothing works better than working with a hypnotist or hypnotherapist. Nevertheless, visiting a therapist could also have its negative sides such as expensive cost or areas not providing the hypnotherapy service. Another issue includes individuals not feeling comfortable talking to a stranger. Imagine going to someone to, talk about your personal problems. Many people would much rather speak confidentially via emails. And the most important issue is being able to relax. Hypnosis involves deep relaxation. Where does a person relax more: at an unknown office with a person by your side or at home in your own bedroom? The answer is obvious. A custom made, beautifully looking custom hypnosis CD (or mp3s via the internet) from the Biotherapy Clinic are very convenient and a relatively inexpensive way to use the power of self-hypnosis in the privacy of people's houses.

Some Benefits of Custom Hypnosis CD Downloads from Biotherapy

http://www.biotherapy-clinic.com/custom_cd.html

1. You will receive a beautifully looking CD recorded by a professional, experienced hypnotherapist in an up-dated recording studio
2. Your CD will arrive discreetly packed

3. If your CD ever breaks or stops working, Biotherapy will replace it for FREE. It is guaranteed for as long as Biotherapy is in business

4. FREE shipping

5. 10% off on all future customized CDs

Other benefits of using Biotherapy's custom hypnosis CD downloads:

- * Custom hypnosis CD will be recorded just for you by using your name and your own words exactly for your situation

- * They are far cheaper than visit the hypnotherapist

- * He/she is usually the more experienced and highly respected clinical hypnotherapists. It means that you are far more likely to receive helpful therapy.

- * You can listen to the hypnosis CD's as many times as you desire, further absorbing the suggestions every time you listen to them

- * You can listen to the audio wherever you want. You can relax on the beach, in your backyard, or even on a break while you listen to the calming, therapeutic recordings

- * Most hypnosis downloads are accompanied by a calming unique soundtrack, which also aids the relaxation and healing process

- * You can purchase custom hypnosis CD downloads online without even having to leave your home

- * You can get it almost immediately. You do not need to wait for a shipment of CD's or a "mutually convenient" time to book an appointment

- * Biotherapy offers some sort of money back guarantee that hypnotherapists hardly ever do

- * You need not deal with a hypnotherapist face to face, which may be useful for timid people, especially if you seek help for a potentially embarrassing or private problem

- * Confidentiality is assured. No one needs to know you have received hypnotherapy

* Hypnosis is the easiest way to change your life because the positive messages go straight to your subconscious mind clearly with your own words so you can achieve your goals and reach for the stars!

In what kind of digestive disorders or other situations can people benefit by using the Mind-Body connection? Certainly, you can receive a medical diagnosis from a family doctor, gastroenterologist or a “third opinion” online to give you an idea what is happening in your body. There are many conditions, which may help by hypnosis such as:

- Stress, depression, anxiety, and insomnia
- Hiccups
- Cravings for unhealthy foods
- Nausea/vomiting
- Sphincter of Oddi Dysfunction
- Irritable Bowel Syndrome
- Dyspepsia
- Chronic abdominal pain
- Ulcerative Colitis and Crohn’s Disease
- Bulimia
- Anorexia
- Alcohol, tobacco, drug, and medication addictions
- Travelers’ constipation

Changing the diet is a hard nut to crack. You already have a good idea about what you should be eating, but you have a hard time dealing with those cravings for sugar, chocolate, ice cream, etc. Hypnosis reorients your mind to stop craving high sugar and fatty foods. You develop a healthy eating habit naturally without even knowing it. Hypnosis involves focused thinking. Through this method, the subconscious mind (which is difficult to

reach normally) can be accessed. The best advantage of using hypnosis to overcome food cravings is that it does not have any side effects. Many people are scared to try hypnosis. They must understand that hypnosis is not some magical or mystical art. Getting in touch with your subconscious mind, may help to overcome a problem such a food addiction.

a. Hypnosis for Digestive Health

For individuals with a medical background

Even though, a small number of health practitioners are trained in hypnosis, persistent myths and misconceptions related with this method have hampered its extensive use to treat medical conditions; nevertheless, hypnosis or hypnotherapy has gained relevance as an effective healing for many ailments.

When practiced by a trained professional, hypnosis may help treat a variety of medical problems, including some digestive disorders.

Medical hypnosis is the method of deliberately inducing the state of hypnosis in a patient through verbal guidance and making use of its characteristic properties for targeted therapeutic purposes

The authors consider that there are three very important areas where hypnosis needs to be used more widely:

1. Digestive (pancreatic) disorders
2. Chronic pain
3. Withdrawal from alcohol or some painkillers

Studies, scientific clinical research, and the personal experience of the authors have shown encouraging results of using hypnosis in those areas.

Digestive (Pancreatic) Disorders

Hypnosis has been studied most often in IBS (Irritable Bowel Syndrome) because it has a strong emotional component, and it is difficult to treat with medication. Over 15 years of solid scientific research has demonstrated hypnotherapy as an effective, safe, and affordable choice for IBS symptom alleviation. Hypnotherapy routinely produces long-term positive results in IBS in over 80% of the people who use it.

In 1984, Whorwell PJ, Prior A, and Faragher EB published research in the prestige medical journal *Lancet* about one of the first controlled trials of hypnotherapy in the healing of severe, refractory Irritable Bowel Syndrome. [208] The researchers concluded that hypnotherapy showed a dramatic improvement in all features. The hypnosis approach used was an intervention developed by the Manchester, England team called gut-focused hypnotherapy. This technique aims primarily to normalize disordered bowel function, but additionally provides relaxation, coping skills, and ego-strengthening suggestion.

In October 2003, Gonsalkorale *et al.* published the article *Long term benefits of hypnotherapy for irritable bowel syndrome* in the British journal *Gut*, reporting on a five year follow-up of patients with Irritable Bowel Syndrome treated with hypnotherapy. [207] 204 participants who had completed a course of gut-directed hypnotherapy rated their symptoms before, immediately after, and up to six years after the study. 71% of participants found that their symptoms improved with the initial treatment, and 81% of the research subjects maintained their improvement over time.

Participants also reported fewer doctor visits and less medication use for IBS following therapy.

A large number of journal articles, book chapters and scientific abstracts about the positive action of medical hypnosis on Irritable Bowel Syndrome may be found at: <http://www.ibshypnosis.com/Palssonbio.html>

In 2006, Palsson OS *et al.* published an interesting study.[209] In this study, a 3-month home-treatment version of a scripted hypnosis protocol improved all central IBS symptoms (response defined as more than 50% reduction in IBS severity) vs. 15 (26%) control subjects. Hypnosis subjects improved more in quality of life scores compared to the controls. Hypnosis responders remained improved at a 6-month follow-up. This data is well correlated with our experience of using a custom hypnosis CD at home by people with GI symptoms linked to IBS.

A few studies have addressed the potential impact of hypnosis on upper digestive function and disease. A group of researchers from the University of Verona, Italy, and the University of North Carolina at Chapel Hill, U.S. published a remarkable article about hypnosis, upper digestive function and diseases in *World J Gastroenterol* (2008).[210] They reviewed the effectiveness of hypnosis in the modulation of upper digestive motor and secretory functions coupled with a discussion of potential mechanisms of its therapeutic action.

There is evidence that hypnosis suggestions increase or decrease the gastric acid output in the stomach. This is well documented by several authors in the 1960s and early 1970s when peptic ulcers were considered to be a psychosomatic disorder caused by increased gastric secretions. In healthy volunteers, gastric emptying was significantly accelerated by hypnosis. Some authors mentioned the potential impact of hypnosis on gastric emptying rates and that hypnosis can modulate the oro-caecal transit time in healthy volunteers, as well.

Functional dyspepsia refers to symptoms thought to originate in the gastroduodenal area in the absence of any organic or metabolic disease. Postprandial fullness, early satiety, epigastric pain, cramps or burning may be reported as symptoms in functional dyspepsia. Functional dyspepsia, literally “bad digestion” consists predominantly of epigastric pain present ≥ 1 month, with or without heartburn (overlaps with classic reflux disease) experienced regularly by 25% to 34% of Americans.

Hypnotherapy is highly effective in the long-term management of functional dyspepsia. Furthermore, the dramatic reduction in medication use and consultation rate provides major economic advantages. These are conclusions from the article *Long-term improvement in functional dyspepsia using hypnotherapy* that was published in *Gastroenterology* in 2002 by doctors from Manchester, United Kingdom by Galvert EL *et al.* A randomized controlled trial showed that hypnotherapy was a highly effective treatment for functional dyspepsia and functional chest pain of presumed esophageal origin unresponsive to standard care. Clinical benefits were well maintained at long-term follow-ups.[211]

It is the opinion of the authors that most of the functional digestive diseases are based on the functional deficiency of bile and pancreas, which we refer to in our classification as the *acidic pancreas and bile* stage of exocrine pancreatic deficiency.

Possible diseases and conditions associated with *acidic pancreas and bile* stage include functional dyspepsia, biliary dyskinesia, GERD, Sphincter of Oddi Dysfunction type III, Irritable Bowel Syndrome, Intestinal Dysbiosis (Candida-yeast overgrowth), Metabolic Syndrome, etc.

These conditions are caused by the patients’ acidic lifestyle, consuming acid forming foods without natural enzymes and filled with synthetic substances, as well as the toxic environment inside and outside the body. The acidic lifestyle causes chronic acidity in the body – chronic metabolic acidosis,

which, at first, leads to functional changing in the biochemistry of bile and pancreatic juice with irritation of the upper GI tract. Later, it can cause the structural damages in this area and exacerbation of symptoms. Mostly, the functional digestive diseases combine with intestinal dysbiosis, which make a regular vicious circle.

**Metabolic Acidosis => Lower Exocrine Pancreatic Function =>
Intestinal Dysbiosis => Metabolic Acidosis, and so on**

In the *acidic pancreas and bile* stage, for healing to be effective, actions in all three directions are required. Involving the patients in self-healing needs for them to change their attitude to focus on a healthy lifestyle, healthy diet, physical activity, stress control, eliminating unhealthy habits, detoxification, etc. In the *acidic pancreas and bile* stage, many people experience different kinds of addictive foods and cravings. It has been detected that food diminishes anxiety. A stressed and troubled person might give in to his food cravings more easily than others. Hypnosis may restart the Mind – Body connection and through reprogramming, turn on the positive impulse of the patient to a healthy lifestyle.

In the *pancreatic deficiency* stage, symptoms are stable, however, with a tendency to exacerbate. Patients suffer from attacks of abdominal pain and cramps usually in the epigastria area. Intermittent pain may last from hours to days and can be worsened by eating heavy, fatty/protein/starchy/ sugary mixed meals or drinking alcohol. Nausea and gas can often accompany the abdominal pain.

Some diseases and conditions associated with *pancreatic deficiency* are chronic pancreatitis, duodenal ulcers, gallbladder disorders (inflammation, stones, sludge, parasites), conditions after gallbladder removal and some

surgeries on the upper GI tract, considerable intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth), IBD (Crohn's Disease, Ulcerative Colitis), Celiac Diseases, Cystic Fibrosis (early stage), Diabetes, alcohol abuse, etc.

Even for these complicated conditions, hypnosis may be effective.

Medical hypnosis teaches patients how to focus and concentrate, leading to a state of inner relaxation and increased self-control. It is a useful tool for managing mental and physical functions in a variety of situations, from tolerating pain to regulating behavior

For people with *pancreatic deficiency*, especially with chronic pancreatitis, hypnotherapy may help making healthy changes in the lifestyle, involve the person in a self-healing mode of behavior and reduce some symptoms including pain, anxiety, depression, and insomnia.

Concerning pancreatic health, it is also necessary to focus on a new healthy tool for diabetes – hypnosis. Diabetes is becoming one of the world's most serious health epidemics, and researchers are continually investigating the different ways to manage this condition. Professor Richard S. Surwit from Duke University Medical Center in the U.S., a leader in the field of psychology of diabetes, adds the active component to treating diabetes: a Mind-Body program that lowers blood sugar levels and reduces the dangerous and harmful side effects of diabetes. In the book, *The Mind-Body Diabetes Revolution*, Dr. Surwit and coauthors discover how stress, depression and anger affect blood sugar levels and present a program, based on 20 years of study, to help the millions of people with diabetes effectively manage their conditions.

Losing weight is a vital approach to heal Metabolic Syndrome, fatty liver, fatty pancreas and type 2 diabetes. Enhanced self-control and behavioral regulation, which will lead to improved food choices, exercise and other healthy habits may stabilize and improve these conditions and can sometimes lead to a remission of diabetes symptoms, as well. Authors have very positive results using a custom hypnosis CD in weight loss, Metabolic Syndrome and diabetes healing programs.

Hypnosis can help increase self-control as well as positively regulate behavior

The article, *Treating Digestive Disorders with Hypnosis* posted in Digestive Health on August 16, 2010 by Johns Hopkins and University Health Publishing, shares information about encouraging studies of using hypnosis in the following areas: Functional Dyspepsia, IBS, Ulcerative Colitis and Crohn's Disease. Some of the research is listed below.
http://www.johnshopkinshealthalerts.com/alerts/digestive_health/JohnsHopkinsDigestiveDisordersHealthAlert_3634-1.html

A cause of chronic indigestion and functional dyspepsia can be difficult to treat. One problem may be that food is overstaying its welcome in the stomach, causing discomfort. A recent study suggests that hypnosis can help speed food through the stomach and relieve symptoms. Researchers studied the passage of food through the stomach under normal conditions, after taking a heartburn medication and during a 90-minute hypnotic trance. Hypnosis was more effective than medication in speeding gastric emptying in both healthy subjects and people with functional dyspepsia.

A study in the *American Journal of Gastroenterology* assigned 17 people with active ulcerative colitis to a single 50-minute session of gut-focused

hypnotherapy. Participants were instructed to focus on relaxation and reduce inflammation. A control group of 8 participants listened to their choice of music for 50 minutes. After the session, rectal inflammation was reduced by an average of 82% in the hypnotherapy group, while no change was seen in the control group. Reductions were also observed in the body's overall inflammatory response in the hypnosis group but not in the control group.

A small clinical trial recently performed 12 sessions of gut-focused hypnotherapy on 15 people with severe or very severe inflammatory bowel disease (including Crohn's disease). 5 years after hypnosis, 4 participants were in complete remission, 8 had mild disease, and 1 had moderately severe disease. 80% reported a good quality of life after treatment and 60% were able to stop corticosteroid treatment completely. Only 2 participants had not responded to hypnotherapy and required surgery.

The treatment of the *pancreatic failure* stage is very complicated for conventional medicine. Possible diseases and conditions associated with *pancreatic failure* are the final stages of chronic pancreatitis, cystic fibrosis, liver cirrhosis, cancer, etc. Yet, in those serious conditions, the Body-Mind approach may improve the patients' quality of life.

In 1996, a review by the National Institutes of Health panel in the U.S. published in *JAMA*, concluded that there is "strong evidence for the use of hypnosis in alleviating pain associated with cancer".[212]

Published systematic reviews of randomized clinical trials have also deemed hypnosis to be effective for treating nausea and vomiting associated with cancer chemotherapy.

Complimentary approaches such as relaxation, hypnosis and a custom hypnosis CD may considerably improve the quality of the patients' life and reduce persistent abdominal pain, nausea, and depression.

b. Hypnosis for Chronic Abdominal Pain

Functional chronic upper abdominal pain with recurrent perception of pain without morphological finding is typical. It may relate to the *acidic pancreas and bile* stage of exocrine pancreatic deficiency. Hypnosis with an adjunction to a healthy diet, physical activity, acupuncture, point massage, herbal and nutritional therapy can reduce the pain and improve the person's well-being.

Treatment of advanced stages with structural damages of the pancreas is a more difficult task and requires a complementary approach. In these conditions, hypnosis may be helpful as part of a healing program by:

- Decreasing anxiety and depression, which commonly aggravate chronic upper abdominal pain
- Decreasing consumption of NSAID and opiate analgesics. It can suppress irritation of mucous membranes and spasms of the sphincters; therefore, diminishing the pain
- Stopping alcohol dependence that generally triggers pancreatic pain. Regarding alcohol dependence, just stopping alcohol consumption may be the most critical step in relieving pain during the early stages of the pancreatic diseases. As pancreatitis becomes more chronic, continued use of alcohol greatly increases the risk of complications and death and should be avoided at all costs

A patient who presents pain from chronic pancreatitis requires careful evaluation. These patients have complex psychosocial problems associated with long usage of narcotic types of pain medications over many years for pain relief. In many patients, chemical dependency on alcohol and narcotic

pain medication is difficult to distinguish from actual pain originating from the pancreas. A careful evaluation of the patient for chemical dependency is critical for a favourable clinical outcome. More information can be found in the *Chapter 41 A Non-Drug Approach for Abdominal Pain*.

c. Hypnosis for Depending on Alcohol and Painkillers

Alcohol is one of the worst enemies of the pancreas. Withdrawing the patient from alcohol is a very complicated therapeutic tool. By authors' decades of experience, passive (without active and conscious participation of the patient) in the withdrawal process to stop patient's chemical dependency on alcohol and narcotics, usually is impossible.

Using psychotherapy, relaxation, hypnosis and a custom hypnosis CD to involve the patient in the first step of self-healing is crucial. More information can be found in the *Chapter 40 Biotherapy Outpatient Program for Alcohol Cessation*.

To summarize, the Mind-Body Connection approach is a fundamental part of complementary medicine and can be successfully combined with most nondrug methods of healing such as acupuncture, massage, herbal and nutritional therapy.

Interesting facts at a glance:

The Mind – Body connection is a unique beneficial factor of our health and longevity

One of the reasons why stressful emotions can lead to digestive issues is that the digestive system is rich in nerve branches. Digestion is highly

influenced by the nervous system

The GI tract operates much like the central nervous system by exchanging information with nerve cells and chemical messengers/neurotransmitters

Stress => Digestive Disorders => Stress. It's a vicious cycle, and digestive health is the victim

Positive messages work well. Positive repetitive suggestions by the practitioner and self-suggestions by the individual are huge triggers for the healing process

Hypnosis can help increase self-control and regulate behavior

Hypnosis and self-hypnosis by custom hypnosis CDs may alleviate stress, depression, anxiety, insomnia, cravings for unhealthy food, bulimia, and anorexia. Hypnosis and self-hypnosis by custom hypnosis CDs may help in many health conditions related to the GI tract such as Dyspepsia, Irritable Bowel Syndrome, Sphincter of Oddi Dysfunction, Ulcerative Colitis, Crohn's Disease, Chronic Pancreatitis, chronic abdominal pain, nausea, hiccups, etc.

Hypnosis and self-hypnosis by custom hypnosis CDs may help with eliminating alcohol, tobacco, drugs, and addictions to medication

There is strong evidence for the use of hypnosis in alleviating pain associated with cancer. Hypnosis considers being effective for treating nausea and vomiting associated with cancer chemotherapy

The Mind-Body Connection approach can be successfully combined with most conventional and nondrug methods of healing

Chapter 39-European Whole Body Cleansing Through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy

For individuals lacking a medical background

What do you do to keep your car running smoothly? You change the oil and tune-up the engines. Your body is no different from a car. The human organism is a unique mechanism with great powers of recuperation, even when we mercilessly abuse it. Just as, you would never run your car engine for years, without cleaning it and changing the oil, you cannot maintain a healthy, “smoothly running” organism without proper internal body cleansing.

Intoxication or poisoning of the body is a serious problem in modern society. Almost six trillion pounds of chemicals are released into the environment each year. Some of these can get into your body via the air you breathe, the food you eat and the water you drink — placing excessive strain on your body.

Stress and chemicals in the air, water, and food create a build-up of toxins and slugs. These toxins overburden the body’s organs of elimination compromise the immune system and interfere with the functioning of every cell in the body. Lots of what we eat contain artificial food coloring, preservatives, antibiotics, synthetic hormones and other artificial substances. The amount of natural vitamins and trace elements in fruits and vegetables has significantly decreased.

During the past few decades, the human diet has drastically changed. Improper diets and overeating have an enormous effort on the pancreas leading to the incomplete digestion of food, which then becomes stored as a thick, mucous-like layer in the intestines. Different microbes and parasites

find this a perfect environment for reproduction. There is no doubt that these accumulated toxins along with undiagnosed nutrient deficiencies are behind a number of diseases. For example, numerous medical studies show that 95% of cancer is caused by an improper diet and toxic conditions.

Young or old, healthy or sick, everyone would benefit from removing the disease-producing toxins. Environmental medical doctor Sherry Rogers even wrote the book “*Detoxify or Die.*” European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy Program is the key to support health and healing. This program is the updated model of healing in the European healing mineral water spas.

The goal of this unique program is not only to reduce toxic overload in the body but to restore proper functioning of the gastrointestinal tract, as well. This program does not focus on particular organs such as liver cleansing and colon cleansing, but focuses on all cells, organs, and systems of the body.

It helps participants to:

- * Improve the function of all organs that are responsible for elimination of toxins and parasites
- * Focus on the proper work of the liver, gallbladder, kidney, colon, and pancreas
- * Normalize the body's acid – alkaline balance on the cellular level
- * Restore the friendly intestinal flora and decrease Candida-yeast overgrowth
- * Repair the proper function of the entire digestive system
- * Replace deficiencies of essential nutrients
- * Promote weight loss

This program suggests approaches such as:

1. Drinking Karlovy Vary Healing Mineral Water
2. Healing Foods Consultation and Customizing the Healing Diet
3. Restoring Friendly Intestinal Flora
4. Nutritional Supplementation and Herbs
5. Colon Hydrotherapy

Drinking Karlovy Vary Healing Mineral Water is common in Europe and many Europeans spend their vacations at the mineral spas for cleansing and body rejuvenation. Some people continue the healing process by drinking healing mineral water prepared from Genuine Karlovy Vary Spring Salt at home. More information can be found in the *Chapter33 European-Style Healing for Digestive (Pancreatic) Disorders – Karlovy Vary Healing Mineral Water*.

Healing Foods Consultation

You are what you eat, digest, assimilate, and eliminate. You can eat the healthiest organic foods, but without healthy eating habits, proper food combinations and a properly functioning gastrointestinal tract, the “best” diets will not work. The diet is undoubtedly oldest, best, safest, and cheapest form of healing. The right customizing diet helps to receive maximum benefits of this program.

Restoration of Friendly Intestinal Flora

The intestinal tract is home to around 500 species of microorganisms and not all of them are friendly. High levels of stress, chemical exposure, poor diet, overuse of antibiotics and birth control pills can kill the friendly

intestinal flora and create overgrowth of yeast (Candida). The yeast-syndrome is characterized by “feeling sick all over.” Fatigue, allergies, immune system malfunction, depression, and digestive disturbances (constipation, diarrhea, bloating, abdominal pain) are just some symptoms. Almost 100 hundred years ago, the famous bacteriologist and Nobel Laureate, Ilya Mechnikov, stated: “Death begins in the colon”. In his groundbreaking book “*Prolongation of Life*,” Mechnikov documented in detail the unusually lengthy life spans of several societies that practiced eating fermented foods and special bacterial cultures. Today, a century later, brilliant medical researchers from all over the world are refocused on the importance of restoring friendly intestinal flora.

Amount of friendly bacteria in the yogurt is too small to replace needed amount of friendly flora in our body. Taking **probiotics** does not usually restore the healthy balance in the gut as many people often think. We can compare our intestines to a garden. Planting the roses to grow in depleted soil, in a garden full of weeds and insects, jam-packed with chemicals, which kill plants, will not make the garden flourish and beautiful. Restoring friendly intestinal flora is not a easy way in people with improper diets, poor qualities, and amounts of bile and pancreatic juice, parasites and Candida-yeast overgrowth, leaky gut syndrome and chronic digestive disorders.

To promote whole body cleansing, many holistic practitioners use **herbs and supplements**. “Cleanse and Purify” is a one of a kind supplement personally formulated by Peter Melamed PhD. This unique combination of Chinese and European herbs is formulated to do exactly what its name implies: cleanse and purify your body.

Colon Hydrotherapy is a safe and simple method that irrigates the large intestine with purified water to clean out the years of toxins and accumulated waste lining the walls of the colon. Contrary, open and clean

intestinal walls (free from yeast and parasites) are a very good environment for the multiplying of friendly intestinal flora.

Flushing the colon has been known since the 14th century B.C. Enemas were very common medical treatments in the 19th and 20th centuries and were prescribed by medical doctors for many health conditions.

Thanks to J. H. Kellogg, MD (famous for inventing corn flakes), colon hydrotherapy became popular in the U.S. This happened because of Dr. Kellogg's published article in the Journal of the American Medical Association praising the procedure's efficacy for a dysfunctional large intestine. Many hospitals and medical offices often used colon irrigation until the 1940s. After that time due to some political reasons, the use of colon hydrotherapy in the U.S. decreased.

a. Possible Benefits of Colon Hydrotherapy Include:

- ◇ Cleansing the colon
- ◇ Exercising the colon muscle
- ◇ Reducing pressure in the intra-abdominal area
- ◇ Causing the sensation of lightness and well-being
- ◇ Promoting the proper balance of the healthy intestinal flora
- ◇ Stimulating peristaltic action of intestines
- ◇ Reshaping the colon
- ◇ Expelling parasites
- ◇ Promoting weight loss
- ◇ Decreasing inner toxicity

Nutritionist, lecturer, and author of over 30 books on natural health care, Bernard Jensen, states: “Every tissue in the body is fed by the bloodstream, which is supplied by the bowel. When the bowel is dirty, the blood is dirty and so are the organs and tissues. It is the bowel that must be cared for first”.

The fact remains that the health of every body system is directly related to the colon. The colon should be the first organ of the body that is addressed in any cleansing program. The large intestine problem is the direct and indirect cause of more disability and loss of time from work than any other cause.

An effectively operating colon is the key to vital health and well-being. If our colon isn't able to perform its essential function of eliminating toxic waste, we will inevitably experience symptoms such as fatigue, allergies, moodiness, weight gain, skin impurity, muscles pain that all lead to poor quality of life and ultimately death. Over 50% of all cancer may originate from a toxic colon. Last year more than 200,000 Americans had their filthy, rotten, diseased colons surgically removed.

There is no condition that can disassociate itself from the colon. The healthier the colon, the healthier all other organs of the body will be. A toxic body is usually the result of a toxic colon.

The toxic colon becomes so full and stretched that it cannot longer function appropriately. As a result, constipation occurs. Scientists believe that the normal frequency of bowel movements is 2-3 times a day. One bowel movement supposes to be after each big meal.

Stress, moodiness, poor memory, fatigue, dizziness, bloating, bad breath, daytime sleepiness and skin rashes can be attributed to poisoning of the

body due to stool delay and bowel problems.

Stretched by stool build-up, the deformed, almost immobile colon presses against the neighboring organs, such as the:

- > Lungs: causing oxygen deprivation
- > Liver: disrupting the normal flow of bile and leading to formation of stones
- > Pancreas: squeezing the pancreatic ducts and suppressing elimination of the pancreatic juice
- > Blood vessels of the lower abdominal cavity: causing hemorrhoids, varicose veins and sexual dysfunction
- > Intestines: increasing the pressure inside the abdomen therefore, causing constipation and diverticulosis.

There is a direct connection between self-poisoning of the body and the development of cancer and premature aging.

Are you overweight or underweight? Do you experience gas, bloating, flatulence, constipation, diarrhea, low energy, fatigue, depression, headaches, backaches, joint or muscle aches, blurred vision, body odor, bad breath, irritability, confusion, sinus problems, skin blemishes, allergies, difficult periods and PMS, low libido, low self-esteem, and low resistance to colds and infections? These are gentle nudges ... little wake-up calls to make you aware of the fact that toxic waste is building up in your body. The continual accumulations of these toxins are in the process now, despite your illusion of “good health,” of leading you to develop more serious health issues later.

You can sit and wait hoping that you will never have any serious health problems. Or you can start taking care of yourself now. Let's hope that it is not too late...

b. Inner Toxicity from Medical Standpoints

For individuals with a medical background

Most problems with human health depend on either deficiencies (when required essential nutrients do not meet the body's needs) or toxicity (when the body cannot handle the burden of toxic substances). The inner toxicity, in its turn, depends upon reduced function of organs that are responsible for elimination. Simultaneously, too many toxic substances are produced either inside the body or over intake of these harmful agents through the mouth, water, air, skin. The inner toxicity poisons all our cells.

Systemic detoxification is a life sustained process involving almost all organs and body systems, including the liver, gallbladder, colon, kidneys, lung and skin.

c. Pancreas and Inner Toxicity

The pancreas is also a main player on the detoxification team but can suffer excessively from inner toxicity by itself. The inability to adequately digest food, because of either exocrine pancreatic deficiency, or overloading the digestive system with excessive amounts of “dead,” artificial and toxic food, leads to the body's inner toxicity. Food particles not digested well enough to be absorbed across the gut wall, pass down where they putrefy and form chemicals that irritate the mucosal lining of the gastrointestinal tract. It makes perfect milieu for pathogenic microorganisms.

Inflammation of the mucous membranes increases permeability of the gut wall to larger molecules. This allows partially digested food particles to enter the blood system, where they cannot be utilized by the body as food, but must be attacked as a foreign invader by the immune system's cells. It makes a huge effort on the immune system, liver and the whole detoxification process.

The pancreatic cells produce more protein than the other cells of the body. It makes the pancreas especially vulnerable to toxic environments inside or outside of the body, whether caused by alcohol, microorganisms, parasites, inflammation, immune or metabolic disorders, age, dysbiosis, (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth), hereditary disorders, etc.

We postulate that the activity of the pancreatic enzymes have a vital influence on the activity of all metabolic enzymes, as well. Thus, decreasing of the exocrine pancreatic function may diminish cellular and tissue detoxification mechanisms.

The vicious circle “metabolic acidosis => low exocrine pancreatic function => dysbiosis (Candida-yeast overgrowth, SIBO) => metabolic acidosis” makes the pancreas vulnerable to toxic substances such as alcohol, bile acids, nicotine, medications, and myriads of environmental pollutants.

Pancreatitis is caused by toxicity and causes toxicity by itself, thus, enhancing the function of the liver, gallbladder, colon, kidneys and particularly the pancreas is the key to avoid or slow down pancreatitis. The proper gastrointestinal and especially pancreatic health requires constant effort to eliminate the toxic substances and unfriendly microorganisms from the human body.

d. Program That Decreases Inner Toxicity and Promotes Pancreatic Function

Toxicology, as a medical science, was developed 100 years ago for military, environmental, technological, and pharmaceutical purposes. In hospitals, to save a life from acute poisoning, applied methods of active detoxification such as forcing diuresis with blood alkalizing, intravenous chelating agents, enemas, stomach washing, colon lavage, hemodialysis, peritoneal dialysis, antidotes therapy and more have been utilized.

Author Peter Melamed was trained for poison control and implemented detoxification therapy at the ICU practically every day for 15 years. What is beneficial for acute toxicity, certainly, can help in chronic situations; therefore, using some of these methods for chronic inner body toxicity makes therapeutic sense.

European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy Program includes some approaches to both remove waste products and restore the body's detoxification mechanism. This program (used by the authors for many years) is a prototype of cleansing, rejuvenation, and healing programs, which are widely used in the European healing mineral water spas.

Karlovy Vary Healing Mineral Water has a hundred year history of being used as a remedy in Europe for chronic professional intoxications (glass blowers, mineworkers, jewelry makers, heavy metals and gunpowder manufacturers, etc.). This water alkalizes the organism and promotes urination, bowel elimination, and bile production.

From practice at acute poison control centers, it is known, that forced diuresis with blood alkalizing is the first action to remove many toxic substances throughout the kidneys. Drinking a mineral solution such as Karlovy Vary Healing Mineral Water, that is close to the electrolyte content of human plasma and its alkalizing action make this water suitable for many chronic toxic conditions. Promoting slightly laxative actions and the manufacturing and elimination of bile are also very beneficial to decrease the body's inner toxicity.

Using some **herbal formulas** that include herbs, which promote urination and elimination, and drinking a lot of water can help with detoxification, as well. **Fresh organic vegetable blends and juices** have the ability to remove heavy metals and nucleotides.

It is known, friendly intestinal flora takes part in metabolism of the vitamins and elimination of many substances such as cholesterol, bile acids, heavy metals, etc. Friendly intestinal flora in the colon diminishes putrification and decreases the toxic overload on the liver. Taking a large amount of living, human strain probiotics is a very important part of the cleansing program.

Colon hydrotherapy is a type of colon dialysis and has been widely used in many European countries for hundreds of years. Colon hydrotherapy pricks up doctors' ears and has many controversies today. Some of the controversies may have real validity and some of them are myths.

However, opponents of this procedure insist that during colon hydrotherapy, clean and purified water may flush out some microorganisms and minerals

from the colon. Sorry to say, but most people (due to the epidemic of dysbiosis and constipation) do not contain proper amounts of healthy intestinal flora in the colon. Heretofore, there are no good things there to flush out. Contrary, the purpose of colon hydrotherapy is to produce a proper environment for the restoration of friendly intestinal flora.

Nevertheless, to avoid the question about flushing out good bacteria, authors practice with an intensive supply of large amounts of the living, human strain of *Lactobacillus acidophilus* DDS-1 super strain, *Bifidobacterium bifidum*, *Lactobacillus bulgaricus* LB-51 super strain, etc.

On the other hand, drinking Karlovy Vary Healing Mineral Water helps to supply the body with a proper amount of minerals and trace elements.

Doing by professional with nowadays equipment Colon Hydrotherapy is safe and effective procedure.

In case of IBD (ulcerative colitis, Crohn's disease), colonoscopy and consultation with physician is mandatory.

Because of toxicity of some laxatives that are used to prepare patients to colonoscopy procedure,

Fleet Phospho-Soda, an over-the-counter laxative, was recalled on Dec. 11, 2008 by FDA due to evidence of the Fleet Phospho Soda was causing serious kidney failure, renal failure. More specifically, the kidney damage is called acute phosphate nephropathy.

http://www.fda-recalls.us/fleet_phospho_soda_recall

After that, some gastroenterologists use colon hydrotherapy to prepare their patients to colonoscopy and satisfy with the review of the colon during the colonoscopy and general result.

European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy Program is a safe, effective, and important step toward pancreatic (digestive) health. Elements of this

program may be used in all stages of exocrine pancreatic deficiency and can be easily combined with conventional medicine treatment.

Interesting facts at a glance:

All living beings, including humans, have a complex mechanism for removing toxins, parasites and waste materials from the body

Lower functions of the organs that remove these matters from the body due to age and chronic diseases lead to increasing of the inner toxicity

Chemicals from the food, air, water and skin contact (which occur at work or home), as well as alcohol and drugs, place a terrible effort on systems that respond upon releasing the toxins out of the human body

On the other hand, improper digestion, decreased pancreatic function, body acidification and dysbiosis increase the toxic burden inside the body leading to inner toxicity

The medical science of toxicology developed various methods helping the human being to eliminate acute poisons. Some of these methods are particularly useful for alleviating chronic inner toxicity, as well

European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy program is a prototype of European mineral spa healing programs

This unique program helps to reduce toxic overload in the body by restoring proper function of the liver, gallbladder, colon, kidneys and organs of the gastrointestinal tract

This program focuses on the cells, organs, and different systems of the body

This program includes drinking Karlovy Vary Healing Mineral Water, Healing Diet, Restoration of Friendly Intestinal Flora, Nutritional Supplementation, Herbs, and Colon Hydrotherapy

All these healing and cleansing approaches have a long history of being used by millions of people in the world, with solid evidence and

scientific support

Chapter 40-Biotherapy Outpatient Program for Alcohol Cessation

For individuals lacking a medical background that want to quit alcohol

According to an old proverb, “First, the man takes a drink; then the drink takes a drink; then the drink takes the man.” Many people with alcohol abuse do not think about the consequence of heavy alcohol consumption until suddenly they are struck by an attack of acute abdominal pain, nausea, vomiting, or fever. Doctors from the hospital’s ICU confirm the diagnosis of acute pancreatitis, save the patient’s life (mortality for this condition is about 10%), and the happy survivor is discharged, with strictly recommendations to avoid alcohol.

There are two problems here:

1. How does the patient stop drinking?
2. How does the patient prevent attacks of pancreatitis in the future?

First, after heavy drinking for a long period of time, quitting alcohol is a serious problem. When heavy or frequent drinkers suddenly decide to quit “cold turkey,” they will experience some physical withdrawal symptoms, which can vary from mildly annoying to severe and even life threatening. In the clinical experience of the authors, it is almost impossible, without help from knowledgeable, licensed practitioners or even a group of practitioners, to stop drinking. Everybody knows what can happen if you suddenly stop on the freeway. A car crash is highly possible.

Second, if people are lucky enough to be discharged from the hospital and stop drinking alcohol, they have to recover from the pancreas damage,

caused by alcohol, to prevent future attacks of pancreatitis. The first attack usually leads to chronic pancreatitis with serious decreasing of quality of life and life span. Pancreatic cancer often follows chronic pancreatitis.

**The combination of pancreatitis and alcohol is a progressive, chronic
and often
fatal disease**

Acute pancreatitis affects from 80,000 to 200,000 people in the U.S. annually. Moreover, according to medical statistics, these numbers get higher year by year. Nevertheless, it is only the tip of the iceberg because most pancreatic attacks post-alcohol consumption the following day are mild. These pancreatic attacks include nausea, cramps, and mild pain in the upper stomach area, low appetite, gas, belching, diarrhea, or constipation. Almost nobody runs to the doctor for checkups and lab tests. People consciously and subconsciously want to avoid making a connection between their health conditions and alcohol at that time. Denial is a common symptom of chronic alcoholism. The overwhelming majority of these mild attacks remain undiagnosed; nevertheless, they are huge factors for diminishing pancreatic function and a reason for digestive problems in many alcohol dependent people.

The serious problem arises when a person combines drinking alcohol with recreation drugs. The news brings us awful deaths of pretty young celebrities due to the deadly combination of drugs and alcohol.

Gallbladder, liver diseases, and alcohol abuse are major risk factors for pancreatitis. 80% of pancreatitis cases are developed from these conditions. Not all alcoholics finish their life with pancreatitis. However, after a pancreatic attack, alcohol becomes a dangerous, toxic substance for the pancreas at any amount and type (hard liquor, wine, or beer).

Doctors strongly believe that there is no safe dose of alcohol for people after an attack of pancreatitis. The life span of the alcoholic really depends on alcohol consumption

Scientific researchers have proven this fact; do not attempt to prove yourself. Approximately 5 to 6 years after the onset of the disease in patients who continue to drink, chronic pancreatitis results because of the progressive destruction of the pancreatic gland.

Some people may be thinking to “Surely I can still drink a little alcohol. Doctors will be able to fix my pancreas again if I have another attack of acute pancreatitis. I was fine after this first attack of pancreatitis”. Unfortunately, this reasoning is flawed.

Presently, no conventional medical approaches can reverse or cease the main problems that are caused by chronic pancreatitis. These problems include minimized digestive enzyme production by the pancreas and death of the pancreatic cells.

How Does One Stop Drinking?

For those who have committed themselves not to drink or are forced, by circumstances, not to have access to alcohol, the struggle to fight the withdrawal symptoms can become a dangerous battle, one that can actually become life threatening.

The authors have helped hundreds of alcohol abusers and they truly understand how difficult stopping drinking can be. It is almost impossible for most people to stop drinking due to their dependence on alcohol. If you feel that alcohol badly influences your life, health, work, relationship, etc, you have taken the first step: you realized this problem.

One of the most difficult things a person suffering from alcohol abuse or alcoholism will ever face is the acceptance that he or she needs help in the struggle to maintain control over the urge to drink. This is the next and perhaps most critical step.

Alcohol addiction is a medical condition, and cannot only be treated successfully by self-discipline. Moreover, it is not because your willpower is weak. Alcoholism is a chronic, progressive, and often fatal disease. It is a primary disorder and not a symptom of other diseases or emotional problems. The chemistry of alcohol allows it to affect nearly every type of cell in the body, including those in the central nervous system. After prolonged exposure to alcohol, the brain becomes dependent on it.

The First Step is Changing Your Mind

“I need a break! I need a break!” You have to repeat these words many times per day. Do not make unrealistic commitments, take information, and look for help.

You have to realize when, where, why you drink and who are your “drinking friends”.

The most dangerous factors that will not give you a chance to quit are the “drinking friends”. They are alcoholics and feel happy only with people similar to them. “No, I love my friends at the party, in the pub, in the restaurant, etc. I like to spend time with them”. “If I don’t show up, my

friends will miss me...” Sorry to say, but most alcoholics are similar to a wolf pack. Either you follow the law of the pack or the pack of wolves will tear you to pieces.

Tell your “alcoholic friends” that you want to quit alcohol because of your health problems and they will dissuade you or stop “friendly” relations with you. You are not interesting for your “friends” anymore.

To quit alcohol try to find people oriented with healthful habits such as work, sports, health, dance, family, kids, reading, travel and so on but not drink habits.

Alcohol Cessation Program

Alcohol induces pancreatitis by causing small pancreatic ducts to be blocked by protein plugs. It is known that alcohol inhibits the secretion of pancreatic juice and decreases the amount of protein, bicarbonate, minerals, and trace elements in it. Next, alcohol literally kills the pancreatic cells and causes self-digestion of the pancreas by its own pancreatic enzymes.

Very often, even in small doses, alcohol induces spasms of the Sphincter of Oddi, leading to a backup of pancreatic enzymes inside the pancreas. The pancreatic digestive enzymes, which collect inside, start to digest their own pancreatic cells. It causes congestion, inflammation, pain, cysts and eventually death of the pancreatic gland’s tissue.

Further, alcohol produces severe acidity in the body. Too many acid radicals cause chaos in the whole body’s metabolism causing deposits of proteins, fats and calcium directly into the pancreas (fatty pancreas, pancreatic

calcium stones), which shuts down pancreatic function and whole digestion. This means there is a lack of many vital nutrients because the organism cannot digest them from food. That is why alcoholics suffer from a deficiency of vitamins, essential fatty acids, amino acids, many minerals, and trace elements. Additional information about alcoholic pancreatitis and health can be found in the *Chapter 11-Alcoholic Pancreatitis*.

Alcohol leads to severe damage of the nervous, immune and hormonal systems that aggravate the chronic pancreatic injury, as well. It is clear that so many tasks have to be performed simultaneously to treat chronic alcoholic pancreatitis.

It is our experience, that to stop drinking alcohol, one needs to work with his/her mind and body. Intensive psychotherapy, suggestions, therapeutic hypnosis, a customized hypnosis CD for use in the privacy of one's home, acupuncture, support by relatives and friends, avoiding contact with "alcoholic friends" and changing the lifestyle are extremely helpful for this situation.

Another key point is professional help to change your mind in the positive way. The simple steps are listening to custom hypnosis CDs at home, going to an AA support group, or finding a therapist, counselor or psychologist.

Next, you have to be busy in the right way: go to school, spend time with non-alcoholic family members, move to another geographic location, exercise, go to the theater, etc. Keep yourself occupied by whatever you find appealing (except for drinking of course).

Medical practitioners may help to keep your mood stable without depression, anxiety and insomnia that usually accompany alcohol withdrawal.

At the Biotherapy Clinic, various services such as acupuncture, massages, herbal remedies, nutritional supplements, European whole body cleansing with the restoration of friendly intestinal flora, medical hypnosis, etc., are very helpful and time proven healing tools during the moment of alcohol withdrawal.

Some of these actions of alcohol cessation include:

1. Detoxification
2. Normalization of brain chemistry
3. Subconscious positive programming
4. Acid-alkaline balance normalization of the body

Acute or chronic pancreatitis in an alcohol-addicted patient is a serious medical situation and requires an approach that utilizes the healing of both the body and mind. The primary goal not only helps a person stop drinking alcohol, but also to help him, or her quit in a manner that does not hurt their already sick pancreas.

Alcohol Cessation Steps

For that reason, treating alcoholism must begin with basic detoxification. An experienced and licensed practitioner utilizes many methods while detoxifying the body, including:

- ◁ Colon hydrotherapy
- ◁ Restoring friendly intestinal flora (particularly after the use of antibiotics)
- ◁ Customized diets
- ◁ Herbal teas and nutritional supplements

◇ Drinking healing mineral water prepared from Genuine Karlovy Vary Thermal Spring Salt

All **cleansing and detoxification** techniques are necessary to remove alcohol byproducts from the body. These byproducts circulate from the intestines to the liver and then after being reabsorbed into the blood, they travel to the liver again, thus, making a vicious circle.

After being discharged from the hospital and taking plenty of antibiotics, the patient usually suffers from dysbiosis. In this condition, antibiotics kill the friendly flora and Candida-yeast burgeons, causing severe toxicity for all organs of the body and especially the sick pancreas. All alcohol abusers have Candida-yeast overgrowth because alcohol destroys the friendly intestinal flora. On the other hand, fermentation of the yeast in the intestine produces a large number of harmful, toxic alcohols that damage liver and pancreas.

All these actions have to be combined with an intensive cleansing and detoxification program with the restoration of friendly intestinal flora. Various cleansing and detoxification services include herbs, colon hydrotherapy, and drinking the healing mineral water made from the Genuine Karlovy Vary Thermal Spring Salt.

Drinking the healing mineral water is very uncommon in the U.S., but it is extremely popular in Europe and has been researched scientifically for over 200 years. Drinking healing mineral water made from the Genuine Karlovy Vary Thermal Spring Salt has been used for centuries by generations of European doctors for healing of the pancreatic diseases. Dissolving this salt in the water, makes it easy for home use.

Another highly significant step is changing to a **healthy alkaline diet**. Sugar and white flour are enemies in the journey to a sober life. Besides being acidic, consumption of sugar and white flour foods causes harsh hypoglycemic attacks. When the sugar level in the blood sharply drops, there will be mood swings and intense cravings for alcohol.

It is also difficult to recover after an attack of pancreatitis without a special healing diet developed by European doctors. Simple recommendations such as “avoid fat, red meat and drink juices, etc”, are useless, because different symptoms of different stages of chronic pancreatitis require different kinds of food, their preparations, food combinations and the way in which to eat this food. Additional information about eating for pancreatic health can be found in the *Chapter 17-A Healing Pancreatic Diet*

Another holistic approach for alcoholic pancreatitis involves nutritional supplementation of minerals, trace elements, vitamins, antioxidants, essential amino acids, fatty acids, probiotics, enzymes, botanicals, etc. All these approaches can help to withdraw from alcohol and painkiller dependency, decrease inflammation, improve digestion and immunity, diminish stress and anxiety and restore the correct acid-alkaline balance of the body and especially in the pancreas.

After years of consumption, the brain becomes dependent on alcohol. Alcohol's chemistry allows it to impact almost every cell in the body, including the cells of the central nervous system. That is why the next step for treating alcohol dependence is the normalization of brain chemistry. Brain chemistry normalization is achieved through the practitioners' skilled use of:

- Nutritional supplements
- A special anti-alcohol diet
- Supplementation with essential amino acids
- Herbs
- Magnet therapy

- Auricular acupuncture-NADA protocol
- Regular acupuncture

Subconscious positive programming, or hypnotherapy, is a third practice, which is common and successful when utilized to break an alcohol addiction. If the person cannot contact to medical hypnotherapist or is shy to do so, custom hypnosis CDs can be created to address the particular needs and problems. Then the person can listen to CD in the privacy of their own home for as long as needed, and as many times as necessary.

<http://www.biotherapy-clinic.com/addictions.html>

It is just as important to help alleviate the negative effects that alcohol has on peoples' bodies. The long-term combination of pancreatitis and alcohol wreaks havoc on the body, causing an abnormal acidity and a deficiency of trace elements and minerals. This requires an **acid-alkaline balance normalization** of the body. People are able to nourish and alkalize their bodies by Karlovy Vary Healing Mineral Water (available in the U.S.). This special healing mineral water can be obtained by dissolving the genuine Karlovy Vary spring salt in the water, which makes it easy for using at home. People who habitually drink alcohol as usual have the small amount of magnesium and potassium in the cells. Taking *Cellular Magnesium-Potassium* can increase the cellular level of these essential minerals and normalize acid-alkaline balance with many health benefits.

All above alcohol cessation combinations go far in allowing the pancreas to improve both pancreatitis and alcohol addiction. By employing the four steps listed above, a person can recover from many of the unwanted symptoms of alcoholic chronic pancreatitis such as pain, gas, bloating, indigestion, food intolerance, and many other gastrointestinal complaints and also depression, mood swings, sexual dysfunctions, insomnia, etc.

Most people find that breaking free from alcohol addiction is not easy, even when that addiction is literally destroying their health, relationships and other critical components of their lives. The most powerful thing to remember is that a smooth recovery from alcohol abuse is possible. This recovery can add many wonderful and healthy years to one's life.

It is very difficult to complete all these steps by only conventional medicine. Successful treatment of the alcohol-addict with chronic pancreatitis requires a team approach. Practitioners of alternative or integrative medicine can be very skilled players in this team process.

For individuals with a medical background

One rather staggering statistic shows that some 53% of men and women in the United States state they have at least one close relative that has a drinking problem. In the United States and Western Europe, 10-20% of men and 5-10% of women at some point in their lives will meet the criteria for alcoholism. <http://en.wikipedia.org/wiki/Alcoholism>

In the United States today, nearly 12% of the adult population suffers from either alcohol abuse or alcoholism, and millions more indulge themselves in drinking behaviors that put them at risk of experiencing alcohol related problems. Alcoholism is a chronic disease, meaning that it lasts a person's lifetime; it typically follows a predictable course and has symptoms. The risk for developing alcoholism is influenced both by a person's genetics and by his or her lifestyle. The genetic factors play a minor role by comparison with "heredity of the life style" when grandparents provide alcoholic environment for their children and grandchildren.

The craving that an alcoholic experiences for alcohol can be as strong as the need for food or water. Therefore, the alcohol-addict will continue to drink

despite serious family, health, or legal problems.

Alcoholism cannot be cured at this time. Even if, an alcoholic has not been drinking for a long time, he or she can still receive a relapse. Not drinking is the safest way for most people with alcoholism. Treatment has helped many people stop drinking and rebuild their lives.

The Biotherapy Alternative Medicine Clinic has been successfully using a unique and time after time proven outpatient program customized for people with alcohol dependency.

Peter Melamed, PhD designed this unique program and it had helped people with alcohol dependence and abuse for more than 35 years. As a former medical doctor and founder of one of the first Soviet Union PICUs for the treatment of alcoholics and drug abusers, Peter Melamed has successfully treated a large number of Russian alcoholics, revising the program several times to maximize the success. He tried different treatment methods ranging from artificial comas caused by medical drugs and intensive intravenous therapy, to prescribing disulfiram through the mouth or its injectable form in the hospital setting, to an outpatient program with herbs, acupuncture, healing mineral water, hypnosis, vitamins, etc.

The main conclusion from his decades-long research and practical experience is that:

1. All alcohol cessations without the conscious, personal involvement of the individual are useless
2. Alcohol cessation has to focus simultaneously on social, psychological, and physiological aspects of this process
3. Outpatient alcohol cessation of the alcohol addict requires knowledgeable friends or family members for home supervision and, certainly, an experienced doctor or medical professional

The outpatient alcohol cessation is considered to be effective only if the person doesn't drink alcohol (even if he/she has 24 hour access to it). A 6-month absence from alcohol is the term for considerable success. After 3 weeks of sobriety, the person is open better to suggestions and active participation in future actions. After 3 weeks, the patient needs to maintain an alcohol cessation program 1-2 times per month.

a. Healing the Addicted Person and Addicted Brain Chemistry

The Biotherapy unique healing program includes:

- * **Elimination of alcohol and products of its metabolism – detox/detoxification** with the help of colon hydrotherapy, drinking healing mineral water prepared from genuine Karlovy Vary spring salt, restoration of friendly intestinal flora, healing diet, botanical remedies and nutritional supplements
- * **Brain chemistry normalization** with the help of nutritional supplements, alkaline diet, auriculo-acupuncture-NADA protocol and scalp acupuncture, herbs and magnet therapy
- * **Acid-Alkaline balance normalization** with the help of Karlovy Vary Healing Mineral Water, alkaline diet and nutritional supplementation
- * **Subconscious programming** with hypnotherapy and deep relaxation, custom hypnosis CDs and special coding for aversion to alcohol
- * **Healing of alcohol related health problems** such as poor memory, mood swings, depression, insomnia, fatty liver and liver cirrhosis, sexual dysfunctions, gastro-intestinal tract (pancreatic) problems and more

After an attack of abdominal pain, the possible healing goals to postpone exacerbating of the chronic pancreatitis are to:

- > *Decrease inflammation and swelling of the pancreas*
- > *Repair digestion and absorption*

- > *Restore the production and elimination of bile and pancreatic juice*
- > *Normalize the proper function of the Sphincter of Oddi*
- > *Alleviate the abdominal pain*
- > *Restore minerals, trace elements, vitamins and bicarbonate deficiencies*
- > *Return to normal body and tissue pH*
- > *Make an aversion to alcohol*

Many tasks have to be done simultaneously. For example, it is the experience of the authors that to stop drinking alcohol, one needs to work with his/her mind and body. Many healing therapies may be utilized for this purpose. Reprogramming of the subconscious mind requires extensive professional psychotherapy, suggestions, therapeutic hypnosis and customizing hypnosis CDs for home usage. These healing approaches should be combined with acupuncture and electro acupuncture (such as a scalp, ear, and corporal styles of the acupuncture).

Support by relatives and friends, avoiding contacts with “alcoholic friends,” and changing the lifestyle are extremely helpful for this situation.

More precisely, there are some components of the rehabilitation program, especially, for people with alcoholic pancreatitis that must be emphasized. Denial is a mental part of alcohol abuse, especially in men. Only severe pain may bring an alcoholic to seek medical help. After being discharged from the hospital following an attack of acute or exacerbated chronic pancreatitis, the subsequent temporary withdrawal from alcohol is the best time for a healing program. Even a mild attack of pancreatitis may be a good reason for an alcohol addict to change the habit.

A few days of absence from alcohol and fear of experienced pain are big pluses for beginning the program.

Most alcohol abusers understand the necessity to stop drinking. The most frequently asked question at that time “Doctor, how long until I can drink again?” The answer, “For the rest of your life or never!” makes the patient the enemy of everything offered to him/her.

Telling an alcoholic when his/her mind is still under the influence of alcohol that he/she will not ever drink again is counterproductive and it is a significant therapeutic error. We usually offer a 3-6-12 months’ time frame and receive good compliance with the healing program. After 3 weeks of sobriety, the patient can make a more realistic and appropriate decision by him/herself.

During first 3 weeks of withdrawal, most patients experience anxiety, depression, and insomnia. Thus, the doctor or health practitioner has to be extremely careful about alcoholic psychosis (delirium tremens). All attention in that time has to focus on the smooth and calm withdrawal period, especially in the first week. During the first 1-2 weeks of alcohol cessation, the patient cannot work, drive, care for kids, etc. A lack of a patient’s compliance makes the entire healing program risky and requires stopping the program.

It is a mandatory agreement that for 3 weeks, a close friend or family member who would be providing transportation, care, control and strict compliance following a diet with nutritional supplementation will supervise the patient!

1) Elimination of Alcohol and Products of its Metabolism – Detox/Detoxification

Alcoholism is toxic condition, so alcohol cessation program requires extensive detoxification and elimination of alcohol and its by-products from

the organism. Alcohol is metabolized in the liver and is eliminated throughout the skin, lungs and colon but mostly from the bile and kidneys. It is the opinion of the authors that drinking Karlovy Vary healing mineral water produces the greatest form of detoxification. This water has been used for detoxification for over 200 years.

This water is an electrolyte solution that is close to the human plasma in mineral content.

The scientifically proven benefits of the KVHMW are:

- Increasing urine and bile output
- Increasing liver microcirculation
- Naturally alkalizing urine and promoting elimination of alcohol and its by-products
- Avoiding dehydration and supplying the body with essential electrolytes
- Having a long and detailed history of healing liver and pancreas diseases in Europe

Next, important for detoxification is drinking herbal teas such as rose hips, chamomile, licorice, yerba mate, etc. Herbal teas increase diuresis and bile elimination, improve microcirculation, restore adrenal function, and so on. Half a teaspoon of raw honey may be added to the cup of herbal tea.

Biotherapy's herbal formulas "Damp Water" and "Cleanse and Purify" also include the herbs that can help promote detoxification.

Colon Hydrotherapy has been used for eliminating toxins from the body for over a hundred years. Colon Hydrotherapy also removes Candida-yeast and makes a perfect environment for the restoration of friendly intestinal flora. Alcohol addicts with pancreatitis commonly experience severe intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial

Overgrowth) due to alcohol consumption, poor diets, reduced pancreatic function, and repetitive courses of antibiotics.

2) Brain Chemistry Normalization

Alcohol negatively influences brain chemistry, causing alcoholics to suffer from severe mental problems such as anxiety, depression, insomnia, memory and concentration loss and possibly alcoholic dementia in the future. There are many reasons for mental changes in addicts, such as toxic actions of alcohol and its by-products on brain cells, metabolic acidosis, nutritional deficiencies of vitamins and minerals (magnesium, potassium, zinc, and cobalt), possible head injuries, inner toxicity, etc.

Alcohol changes the balance of the neurotransmitters in the brain. Neurotransmitters are responsible for communication between nerve cells. Four of the most notable neurotransmitters affected by alcohol are glutamate, gamma aminobutyric acid (GABA), dopamine (DA) and serotonin. Withdrawal from alcohol causes chaos in the brain that in a critical condition can lead to severe alcohol psychosis, seizures, coma, and death.

How is brain chemistry normalized?

Acupuncture

In 1997, The National Institutes of Health concluded that acupuncture for addictions,

“may be useful as an adjunct treatment or an acceptable alternative or be included in a comprehensive management program” (Acupuncture. NIH Consensus Statement 1997 Nov 3-5; 15(5): 1-34).

Evidence that acupuncture could effectively treat substance abuse emerged from a chance discovery in Hong Kong in 1972. Dr. Hsiang-Lai Wen reported that a 50 year-old man with a 5- year opium dependence with withdrawal symptoms was prepared for cranial surgery by using acupuncture. After the needles were inserted in various ear and body points, the patient reported that his withdrawal symptoms had subsided. Later when withdrawal symptoms recurred, he was treated again with acupuncture and the symptoms disappeared.

Interest to acupuncture as a nondrug and safe technique for pain management and anesthesia has increased since the 1970-80s in the former U.S.S.R. Some anesthesiologists-acupuncturists discovered that acupuncture decreases the amount of alcoholic psychosis in addicts, in post-op periods. Trained and licensed to provide acupuncture (while working as a MD in ICU and PICU), Peter Melamed, PhD confirmed that acupuncture is an extraordinarily useful tool in the healing program of alcoholics and drug abusers. He developed his own method of an alleviation of the withdrawal syndrome by combining Chinese-corporal, Japanese-scalp and Russian-ear styles of acupuncture together.

Acupuncture cannot solve all the problems, but it can substantially diminish withdrawal symptoms (anxiety, depression, insomnia, cravings, pain, sweating, muscle pain, hypertension, fever, etc.), help avoid relapse and maintain recovery. The most important step in clinical practice is that acupuncture predisposes the alcohol addict to further the mind – body approaches such as consulting, the Twelve Steps Alcoholic Anonymous program, hypnosis, and custom hypnosis CDs for home healing.

Regular acupuncture during alcohol withdrawal and pancreatic disorders is applied daily or once every 2 days for the first week and then twice a week for the second and third weeks. The simple protocol includes the following points:

Baihui (Du 20), Neiguan (P 6), Sanyinjiao (Sp 6), Shenmen (H 7), Yintang, Shousanli (LI 10), Zusanli (S 36), Zhongwan (Ren 12), Liangmen (S 21)

Scalp acupuncture is particularly useful to diminish depression, anxiety, irregular sleep patterns, and cravings for alcohol. There is published evidence that scalp therapy improves circulation in the brain and it is widely used in the Orient and Europe for treating headaches, vertigo, insomnia, poor memory, epilepsy, depression, insomnia, recovery after stroke, etc.

The Biotherapy scalp therapy protocol for withdrawal syndrome in alcohol addicts includes acupuncture in Sishencong (EX-HN1). Location: At the vertex of the head, a group of 4 points, 1.0 cun respectively anterior, posterior and lateral to Baihui (Du 20). It is referred to as a “small crown”. The “Big crown” includes acupuncture in the special points such as Yintang (EX-HN3), Shuaigu (GB 8) with a flat needle insertion, and Fengchi (GB20) and Baihui (Du 20) with perpendicular insertion. Manual manipulation uses a rapid twirling maneuver.

Biotherapy ear acupuncture includes Shen Men, Sympathetic, Apex of the Ear, Point “Zero,” and Pancreas/Gallbladder. In some cases, Shen Men is used bilaterally with electro-stimulation.

Another protocol that is often used in the U.S. includes auricular acupuncture as recommended by the National Acupuncture Detoxification Association (NADA). The protocol involves needling the following ear points - sympathetic, shen men, kidney, liver, and lung.

Magnet Therapy

The Biotherapy magnet therapy approach is a magnetic point massage of a special area in the ear lobe by using Neodymium Rare Earth axially magnetized disc magnets with surface field 1,500 – 4,000 Gauss. Magnet therapy promotes relaxation and sleep reduces stress and improves mood.

Supplements for Brain Chemistry Normalization

People have been employing addictive substances for centuries, but only recently, scientists have begun to understand in detail how the brain becomes addicted. Most people fail to understand what occurs in the brain as addiction takes hold and how those brain changes may affect us.

Our brains have a chemical reward system that controls different types of behavior, some of which are healthy natural behaviors, such as breathing, eating, and multiplying, while others are learned behaviors that become impressed on our brains as we repeat them. Refraining from any of these behaviors causes anxiety that, if it goes on long enough, can become unbearable. Then, if we seek relief by returning to the behavior, we experience pleasure and comfort.

Our mind's reward system stimulates us to behave in ways such as eat and have sex that tend to keep us stay alive as individuals and as a species. This system makes the behaviors that are life sustaining, provides some tools, which are required to take the desired actions and then rewards us with pleasure when we do. The reward system also has a reminder program to help you repeat the experience. Alcohol behavior causes an influence in the subconscious memory that lasts for the end of our lives.

Alcohol alters the reward system by directly changing the levels of dopamine and many other neurotransmitters. Addiction leads to the persisted use of a substance or continuation of behavior despite extremely negative consequences. An addict will prefer the drug or behavior to the normal activities of life, family, love, law, employment, and sometimes even basic survival.

Alcohol is an perfect example of how tolerance and withdrawal promote addiction. If a person drinks heavily for a long time, his brain will adjust to the sedative effects of alcohol. Alcohol stimulates receptors in the brain for the neurotransmitter GABA that normally inhibits brain activity.

The outcomes of acute alcohol withdrawal can be deadly, because the hypersensitivity of the brain can cause epileptic seizures as well as instability of blood pressure, fever, and heart functions. Fortunately, however, some substances can be substituted for the alcohol, to keep the brain stable, and withdrawal can go over a few days.

Any effective treatment must address both the addiction's reorganization of the brain and the power of the addict's memories

At Biotherapy, the protocol to restore healthy functioning in the brain's reward system uses some natural precursors of neurotransmitters and some key nutritional supplements for proper functioning nerve cells.

Everyone who abuses alcohol is unique. Therefore, they do not all have the same brain patterns, genes or psychological problems. An individualized regimen of supplements is devised for each one and may be modified as circumstances change.

Some nutritional supplements:

- **Multi vitamins complex** includes a minimum of 100 mg “B” vitamins (B-1, B-2, and B-6)

- **Alpha Lipoic Acid:** This fat & water-soluble unique antioxidant plays an important role in metabolizing glucose and converting food into energy. It has the power to enhance and restore other antioxidants such as vitamin C, E, beta-carotene, and selenium. Alpha Lipoic Acid protects tissues from damage associated with alcohol toxicity

- **Tyrosine:** Important neurotransmitters such as epinephrine, norepinephrine, and dopamine are synthesized from tyrosine

- **Biotherapy DL-Pheine:** DL-Phenylalanine is used, in different biochemical processes in the body, to produce neurotransmitters, dopamine, norepinephrine, and epinephrine. Endorphins and enkephalins are substances within the brain; they are kind of our own opiates. These substances are responsible for improving moods, reduction of the pain sensitivity, more energy, less cravings, etc. DL-Phenylalanine promotes a high concentration of the endorphins and enkephalins in the brain

- **Biotherapy Cellular Magnesium-Potassium:** provides potassium and magnesium salts with the Krebs cycle organic acids so the body more readily absorbs them. Most alcohol addicts have a shortage of magnesium and potassium with depression, anxiety, insomnia symptoms

- **Biotherapy Pantothenate:** Vitamin B5 is needed for the formation of hormones and the neurotransmitter acetylcholine. Pantothenic acid is also necessary to the synthesis and maintenance of coenzyme A (Coenzyme Q10). An important function of vitamin B5 is to support detoxification of alcohol. Vitamin B5 may accelerate liver detoxification of acetaldehyde after alcohol consumption

- **L-Glutamine:** This amino acid has been shown to improve brain function in alcoholics, resulting in improved sleep, decreased anxiety and a reduced craving for alcohol. L- Glutamine also converts to GABA. Alcoholics usually suffer from hypoglycemic attacks. L- Glutamine’s blood sugar stabilizing effects may partially explain why it decreases alcohol cravings, as well as sugar cravings

- **Gamma Amino Butyric Acid (GABA):** The main neurotransmitter in the central nervous system involved in alcohol withdrawal is GABA. It inhibits

nerve transmission in the brain, calms the nervous system, and blunts anxiety from withdrawal

- **Yin Formula** is Biotherapy's natural, unique, safe, and highly effective herbal remedy that will relieve stress, insomnia, nervous tension, anxiety, restlessness, and irritability. Many of the clinically tested ingredients found in this herbal formula in special proportions have been shown to alleviate abdominal pain, spasms and cramps, promote sleep, maintain mental equilibrium, relax the body and strengthen the nervous and immune systems working by the GABA neurotransmitter system. It also helps reduce the cravings for sugar, coffee, tobacco, and alcohol. Evidence based, this herbal formula is particularly helpful in the alcohol withdrawal program. By the authors' practical experience, Yin Formula predisposes the alcohol addict to cognitive therapy and Mind – Body approaches in the acute or chronic (more than 3 months) withdrawal period

- **Melatonin** may be used during alcohol withdrawal, to normalize the “biology clock”- the sleep–wake cycle or circadian rhythm responsible for day activity and night sleep. Melatonin can be used with combinations of other nutritional supplements

Severe insomnia is a serious problem during active drinking, acute alcohol withdrawal and protracted withdrawal. Insomnia, waking up, turning, extremely light sleep, sweating, nightmares, etc, may be symptoms of developing alcoholic psychosis, especially, Delirium Tremens (also referred to as the D.T.)

During the acute withdrawal from alcohol, the main goal of the doctor or medical practitioner is to get night sleep from the addicted person. This is mandatory!

3) Acid-Alkaline Balance Normalization

Alcohol is a strong acidifying agent and osmotic diuretic. Therefore, almost all alcohol addicts suffer from severe metabolic acidosis, dehydration, and mineral depletion. Dehydration and mineral loss make the fluids travel into the brain cells via osmosis. This condition can lead to a dangerous brain edema with headaches, psychosis, hallucinations, high blood pressure, coma, and seizures. After a particularly damaging or embarrassing alcohol binge, nausea, vomiting, headaches, sweating, and dizziness (the symptoms of the beginning of brain edema) follow.

Replenishing the fluids and electrolytes and alleviation of the metabolic acidosis is essential to avoid serious complications during alcohol withdrawal. The healing mineral water prepared from genuine Karlovy Vary spring salt is a time proven, safe and effective remedy for those conditions. Mineral content of this Karlovy Vary Healing Mineral Water is similar to human plasma and includes bicarbonate that neutralizes the acidity and restores the bicarbonate buffer system in the body.

The authors postulate that the positive actions of Karlovy Vary Healing Mineral Water in alcohol-withdrawal may be connected with the presence of a small amount of lithium. The alcohol addicts report improved moods and a decreased craving for alcohol, diminished subjective symptoms of withdrawal after taking lithium. Even low levels of lithium in drinking water may put off suicide in the general population, according to some studies.

The authors combine drinking Karlovy Vary healing mineral water in alcohol-withdrawal with *Biotherapy Cellular Magnesium-Potassium* for recovery from electrolyte imbalance. Low blood levels of magnesium occur in 30% - 60% of alcoholics and in almost 90% of patients experiencing alcohol withdrawal. *Biotherapy Cellular Magnesium-Potassium* provides potassium and magnesium salts that naturally occur in the human body.

Magnesium and Potassium are easily digested, assimilated, and are transported into the cells where they are desperately needed.

Most alcoholics eat a terrible diet, skip meals and live on sugar and junk food. Eating like this perpetuates the craving for alcohol. In order to stay sober, it is especially beneficial to change the diet.

A general, balanced diet with vegetables, fruit, good fat, moderate protein, and complex carbohydrates is recommended. During the withdrawal period, the diet should focus on fluids and **alkaline foods**. More about healing diet may be found in the *Part 2 of Healthy Pancreas, Healthy You* book.

The appetite during the withdrawal is usually suppressed, but liquids generally are accepted. Water, diluted fresh fruit and vegetable juices, blends, warm broth and soups, and herbal teas such as chamomile, peppermint, rose hips, yerba mate, and licorice, are beneficial.

Since alcoholics often have blood sugar problems such as hypoglycemic attacks, avoiding sugars, refined foods, soft drinks, ice cream, candy, and chocolate is mandatory. Hypoglycemic attacks increase cravings, thus, this is a big reason for relapses.

Small amounts of fresh fruits and fruit juices may be tolerated. Regular eating of small meals and snacks of protein, healthy fats or complex carbohydrate, including whole grains, pasta, potatoes with skin, squashes, legumes, fresh vegetables, soups, eggs, fish, or lean poultry every few hours can be the primary diet.

4) Subconscious Programming

Subconscious programming with hypnotherapy and deep relaxation, custom hypnosis CDs and special aversion to alcohol with coding against alcohol is

a main part of Biotherapy's healing program. Without a positive productive relationship between the medical practitioner or practitioners and the alcohol addict, it is almost impossible to achieve a positive therapeutic result, and, to maintain that positive result for some time.

Alcoholics will not seek help for their addiction by themselves because of the denial mechanism of this malady. Only physical or mental stress, losing a job, legal problems, or serious health issues such as pain may push the alcohol abuser to stop drinking. Usually, this is more in thoughts or words than in real actions because of the fear of withdrawal symptoms and common denial.

Alcohol Cessation at Some Stages of Pancreatic Deficiency

Alcoholism takes a horrible toll on mental or physical health, especially on the pancreas.

The functional stage as *acidic pancreas and bile* consists of gastrointestinal problems such as appetite loss, nausea, vomiting, abdominal discomfort and diarrhea cannot convince the alcoholic to stop drinking.

In the *pancreatic deficiency* stage, an attack of acute pancreatitis with severe pain, nausea or exacerbations of chronic pancreatitis are the triggers to push the alcoholic to see the doctor or practitioner for help. This is a very important moment.

There are two options: either to stop or not stop drinking.

First, the person does not stop drinking alcohol and is forced, by relatives and friends, to go to the medical practitioner. The alcoholic talks about stop drinking but all his/her thoughts are how soon to finish this conversation and go drink again. His/her mind is under the influence of alcohol.

If a sober friend or relative that offers support and care accompanies the alcohol addict, the authors recommend starting with regular acupuncture

sessions and some supplements, which can help with cravings and have a somewhat calming effect.

By regular acupuncture sessions, it will be obvious if the patient tries to comply with the program or not. If the patient does not comply with the healing program (missing appointments, not taking supplements, continuing to drink alcohol), then the outpatient program of the alcohol cessation cannot create the positive result and has to be discontinued.

What the alcohol-addict says means nothing, but his/her actions are extremely important

Second, let us take a more practical and productive situation: the patient with symptoms of chronic pancreatitis starts to quit, asks for help and expresses a real reason to quit alcohol with a friend or relative's help.

The authors use a tactic of reasonable goals without unrealistic promises and avoid scaring the alcoholic with negative suggestions. It is explained to the patient that his/her pancreas and liver need a break from alcohol on a 3-6-12 month time frame. The program starts with acupuncture and hypnotherapy that may help involve the person in a self-healing behavior and reduce some symptoms including pain, anxiety, depression, and insomnia. Avoiding a drinking environment, "alcoholic friends", parties, and bars is obligatory. The caregiver is instructed about possible adverse reactions during the healing program.

After that, the patient undergoes a 3-week anti alcohol-healing program with acupuncture, hypnosis, drinking Karlovy Vary Healing Mineral Water, herbs, nutritional supplementation, whole body cleansing, etc. The patient is

advised to increase physical activity to maximize his/her tolerance (walking, cycling, dancing, exercising, stretching and so on).

5) Healing of alcohol related health problems

Healing of alcohol related health problems, connected to alcohol withdrawal or chronic problems such as chronic pancreatitis pain, depression, insomnia, alcoholic hepatitis, arrhythmia, sexual dysfunctions and gastrointestinal tract disorders has to be an essential part of the rehabilitation program and must be done simultaneously with other medical parts.

After 21 days of abstinence so the mind is clear from alcohol, we offer a special Biotherapy developed procedure of coding from alcohol for 3-6-12 months. After the coding procedure, the patient has an aversion to alcohol, maintains a healing program by periodic sessions of acupuncture, hypnosis, and relaxation, drinks Karlovy Vary Healing Mineral Water, takes some nutritional supplements and listens to personal custom hypnosis CDs at home. The patient knows that help is available at any time. Critical for this time is the support of relatives and friends, avoiding an alcoholic environment (other alcoholics, drinking places) and keeping busy in nondrinking activities that former alcohol-addicts enjoy. All attention at that time has to focus on depression, mood swings, and spontaneous alcohol cravings to prevent relapses.

All alcohol-addicts have unique circumstances and problems. Alcohol withdrawal cannot be 100% for everyone. By the authors' clinical experience, patients with *pancreatic deficiency* stage may achieve stable remissions from 1 to 10 years. Although, the best result can be obtained after a prolonged follow up healing.

Yet, the alcohol cessation in the *pancreatic failure* - the final stage of chronic pancreatitis is extremely complex because of the possible severe decreasing of the mental function such as Wernicke– Korsakoff syndrome. However, even in this serious condition, alcohol withdrawal is possible and may improve the patients' quality of life.

Interesting facts at a glance:

One of the most difficult things a person suffering from alcohol abuse or alcoholism will ever face is the acceptance that he or she needs help in the struggle to maintain control over the urge to drink. This is the first and perhaps the most critical step to recovery

Alcohol addiction is a medical condition and cannot be treated successfully by self-discipline only

When heavy or frequent drinkers suddenly decide to quit “cold turkey,” they will experience some physical withdrawal symptoms, which can range from the mildly annoying to severe and even life threatening

The combination of pancreatitis and alcohol is a progressive, chronic, and often fatal disease

Many mild attacks of pancreatitis remain undiagnosed. Nevertheless, any attacks of pancreatic abdominal pain after alcohol consumption can be the first signs of developing chronic pancreatitis

There is not a safe dose of alcohol for people after an attack of pancreatitis

Denial is a common symptom of chronic alcoholism

All anti alcohol treatments without conscious personal involvement of the patient are useless

Treatment has to focus simultaneously on social, psychological, and physiological aspects of alcohol cessation

Outpatient treatment of the alcohol addict requires responsible friends or family members for home supervision and experienced doctors or medical professionals

It is mandatory that, for 3 weeks, the patient will need strong supervision by a close friend or family member who would provide transportation, control, care and strict compliance with nutritional supplementation

If the patient does not comply with the healing program, the outpatient alcohol cessation has to be discontinued

Six-month deprivation from alcohol is a period for considerable success

The serious problem arises when the person combines drinking alcohol with recreation drugs

The alcohol cessation program may include:

- ◁ Elimination of alcohol and products of its metabolism – detoxification**
- ◁ Normalization of brain chemistry**
- ◁ Subconscious positive programming**
- ◁ Acid-alkaline balance normalization**
- ◁ Healing of alcohol related health problems**

It is very difficult for alcohol cessation to be undertaken by only conventional medicine. Successful treatment of the alcohol-addict with chronic pancreatitis requires team approach and practitioners of alternative or integrative medicine

The *acidic pancreas and bile* stage typically cannot convince the alcoholic to seek help and stop drinking

In the *pancreatic deficiency* stage, an attack of acute pancreatitis with severe abdominal pain or exacerbation of chronic pancreatitis is most often the time when the alcoholic may decide to see the doctor or practitioner for help

Alcohol cessation in the final stage of chronic pancreatitis - *pancreatic failure* is extremely complex because of the possible decreasing of the mental function

Chapter 41-A Non-Drug Approach for Abdominal Pain

For individuals with a medical background

Abdominal pain in the different stages of exocrine pancreatic deficiency such as *acidic pancreas and bile*, *pancreatic deficiency* and *pancreatic failure* has many healing similarities. Therefore, the authors place abdominal pain in one category mainly for methodological reasons.

Chronic abdominal pain is when a person suffers from similar episodes of abdominal pain that occur over 3 months. 3 different stages of exocrine pancreatic deficiency with chronic abdominal pain require a special approach and stepwise healing program.

Symptoms of Chronic Abdominal Pain in Different Stages

Acidic Pancreas and Bile

Infrequent abdominal cramps and mild upper abdominal pain after heavy meals or alcohol intake.

Pancreatic Deficiency

Attacks of abdominal pain and cramps, mostly in the epigastria area. Intermittent pain may last from hours to days. May be worsened by eating or drinking alcohol.

Pancreatic Failure

Persistent abdominal pain in 80-90% of cases, in the middle of the abdomen, mostly in the epigastria area with irradiation to the back. Pain is triggered by food or alcohol intake.

Acidic Pancreas and Bile

In this stage, the chronic abdominal pain is usually not severe and is manifested mostly as the stomach spasms or cramps in different abdominal areas. Pain may be frequent after heavy, fatty/protein/starchy/sugary mixed meals and alcohol consumption.

Possible diseases and conditions associated with the *acidic pancreas and bile* stage include functional dyspepsia, biliary dyskinesia, GERD, Sphincter of Oddi Dysfunction type III, IBS, Intestinal Dysbiosis (Candida-yeast overgrowth), Metabolic Syndrome, etc.

Potential reasons for this pain include:

* **Spasms of smooth muscles** of the stomach, intestines, gallbladder, pancreatic and bile ducts or Sphincter of Oddi Dysfunction caused by:

- Gas, abdominal distention and constipation
- Irritation of mucosal membranes by “aggressive” bile and pancreatic juice especially during refluxes
- Indigestion, fermentation and irritation of some foods due to low amounts and quality of the pancreatic juice and bile
- Spasms of smooth muscles due to a deficiency of magnesium and some vitamins
- Influence of alcohol or Candida-yeast overgrowth toxic metabolites
- Irritation of intestinal walls caused by food sensitivity to gluten, casein, lectins, lactose intolerance, and fructose malabsorption

*** Eroding of mucous membranes** of the duodenum, stomach, intestines or duct walls by chemically “aggressive” mix of the pancreatic juice and bile

*** Distension of the stomach, small intestine, and colon** with gas, liquid and fecal matter caused by:

- Constipation
- Candida-yeast-overgrowth and SIBO with gas-producing fermentation
- Fermentation of indigested food
- Improper food combinations
- Fructose malabsorption

*** Increasing visceral sensitivity to pain and spasms** because of changing neurotransmitters in the peripheral nervous system and, certainly, in the brain due to:

- Destructive influence of toxic metabolites of alcohol, Candida-yeast overgrowth, parasites, chronic infection or allergies
- Improper digestion that leads to deficiencies of essential neuro-nutrients

- Inner toxicity

In the *acidic pancreas and bile* stage, chronic abdominal pain requires some nondrug healing of the causing factors. As a result, symptoms will be reduced due to improvement of digestion and decreasing of toxins.

These actions include:

◁> **Healing Diet (Dietary Recommendations for the *Acidic Pancreas and Bile* Stage)**

◁> **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◁> **Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**

◁> **Anti-Candida Program**

Pancreatic Deficiency

In this stage, the chronic abdominal pain usually appears as attacks of abdominal pain, mostly in the epigastria area. Intermittent pain may last from hours to days. Many people experience pain for several years. Pain may be worsened by eating heavy, fatty/protein/starchy/ sugary mixed meals or drinking alcohol.

Taking painkillers without focusing on the causes of abdominal pain makes the pain chronic and leads to side effects or addictions

Many mild attacks of pancreatitis remain undiagnosed. The authors consider that any attack of pancreatic abdominal pain after alcohol

consumption can be the first sign of developing chronic pancreatitis and cannot be ignored.

The common management of chronic pancreatitis, especially in the early stages, is mostly reactive to suppress the symptoms without focusing on the underlying problems. Little is done to avoid disease progression.

Development, symptoms, the progression, and complications of chronic pancreatitis are strongly interrelated with metabolic acidosis and dysbiosis. Hence, these 3 conditions (chronic pancreatitis, metabolic acidosis and dysbiosis) have to be healed at once.

Pain also depends upon these 3 conditions. Therefore, the healing approaches have to be focused on the root of the problems.

The predominant symptom in patients with chronic pancreatitis - abdominal pain - is poorly understood. Thus, it is difficult to treat. Many theories and points of view show that there is no consensus on what causes the chronic pancreatitis pain, even between leading experts in this field.

Hence, the authors will present their viewpoint on possible causes of chronic pancreatitis pain and possible solutions for it, which were proved by their practical experience.

An experimental model of pain in chronic pancreatitis is extremely difficult to obtain. However, one can clearly present the possible mechanisms of this pain in connection with similar disorders.

Patients, doctors and health professionals, need the safe and effective tools to reduce chronic pancreatitis pain not only by painkillers but by directly positively influencing the processes that cause this pain such as inflammation, destruction of pancreatic tissue, edema, fibrosis, etc.

Pain in the *pancreatic deficiency* stage of chronic pancreatitis may include all the aforementioned reasons that were described associated with the

acidic pancreas and bile stage. However, there are other more serious possibilities for pain that are caused by chronic inflammation, damage and destruction of pancreatic tissue, including:

- * High pressure in the pancreatic duct due to severe spasms or obstruction of the Sphincter of Oddi
- * Destruction of pancreatic tissue
- * Erosion or ulceration in the duodenum and stomach
- * Obstruction of the pancreatic duct and bile duct
- * Stretching of the pancreas cover due to inflammation and edema
- * Inflammation and irritation processes extend into the peritoneum or pleura
- * Peripheral neuropathy of internal organs caused by deficiencies of vital nutrients and inner toxicity
- * Painkillers (opioids) and psych drug dependency

The broad spectrum of problems associated with chronic pancreatitis pain requires a comprehensive approach to pain and underlying processes. The simple way of taking painkillers in the *pancreatic deficiency* stage of exocrine pancreatic deficiency usually is not enough. Treatment options that are the least invasive, safest, and effective should be tried first, and if they are ineffective, different treatments can be employed.

The treatment of disease must be less dangerous than disease by itself!

In the *pancreatic deficiency* stage, chronic abdominal pain requires some nondrug healing of the causing factors. As a result, symptoms may be reduced due to improvement of digestion and normalization of the gastrointestinal tract functions. These actions include:

◁> **Healing Diet (Dietary Recommendations for the *Pancreatic Insufficiency* stage)**

- <> **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**
- <> **Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**
- <> **Anti-Candida Program**

Additional Healing Approaches for Pain Alleviation in Chronic Pancreatitis

Herbal Remedy

Besides directly acting on the digestion process, some botanicals have a long history of scientific research and evidence base in decreasing the abdominal cramps, spasms and pain. The simplest solution, in all kinds of exacerbation of the chronic abdominal cramps or mild pain, is drinking strong **chamomile** tea (3 tea bags in a large cup of boiled water) and applying a heating pad or bottle of warm water on the stomach area. Some people may have pain relief by mixing the chamomile tea with **peppermint, fennel, or ginger**.

The combination of 2 capsules of **Yin Formula** and 1 tablet of **Biotherapy Cellular Magnesium-Potassium** has been evidentially proven to reduce chronic pancreatitis pain. This combination can be repeated every 30 minutes (3 times) with 2 cups of warm water or warm herbal tea. Gnawing pancreatitis pain often occurs in dehydration. Therefore, water by itself may be a particularly helpful healing factor.

According to our observations, regularly drinking a solution in a thermos with herbs including the **Biotherapy Pancreatic Herbal Formula** can decrease chronic abdominal pain. Another practical answer to alleviate chronic pancreatitis pain is a combination of **Acupuncture + MSM + Biotherapy DL-Pheine**.

There are possible mechanisms why this combination can alleviate the chronic pancreatitis pain.

Acupuncture has a long history of healing, much longer than many other treatment modalities. Many methods of treatment are forgotten but acupuncture is currently having a re-birth. It is spreading from the Orient all over the globe. Nowadays, acupuncture is undergoing extensive scientific research to elucidate its mechanism of action.

It is shown that in countries where acupuncture is popular and widely used, that there are more positive studies. Contrary, negative research comes from countries where acupuncture is “alternative” and is not accepted by official medicine. It usually depends upon looking at acupuncture and comparing it with pharmaceutical medicine. Conclusions can include “The placebo response may be predicted”, “It needs further placebo controlled trials”, “No firm conclusion can be drawn about the effectiveness of acupuncture in the treatment of... because of the lack of properly randomized controlled trials”.

The authors of this book avoid any discussions about the effectiveness of acupuncture; however, their 45 years of clinical experience of using this method allow for expressing their opinion. Acupuncture has a plethora of styles including Chinese, Japanese (scalp therapy), Korean (Su-Jok –hand-foot acupuncture), Russian (ear lobe), etc. There are many microsystems and methods (electro puncture, electro acupuncture, “zubo” therapy, point massage, heat, electrical, ultrasound, magnetic acupoints stimulation and many more).

It is difficult to implement double blind standard tests because “sham acupuncture” is also a type of acupuncture. Like all methods of treatments, acupuncture has a placebo effect, but a positive response on small children, unconscious individuals and in particular, at the veterinary practice, shows that acupuncture has some other mechanisms. Analgesic actions are also confirmed by using acupuncture for the purpose of anesthesia and in post-operation care.

Regarding the painkillers effect of the acupuncture, there are a few theories with solid scientific backup:

> **Gate Control Theory:** The pain signal on its way to the brain cortex moves through the nerve branches and is interrupted a few times. These parts of the nervous system function as “gates.” Acupuncture “closes the gates” and prevents the pain impulse from getting through. The cortex cannot receive the signal that is interpreted as pain

> **Endorphin Theory:** Acupuncture stimulates the releasing of natural endogen opioids (endorphins)

> **Neurotransmitter Theory:** Acupuncture influences the levels of the neurotransmitters serotonin and noradrenaline, which are involved in pain perception

> **Circulatory Theory:** Acupuncture needles mechanically destroy some cells. It may free small amounts of very active substances. They trigger a chain reaction that may release histamine and other substances involved in the pain response

In any case, acupuncture works and its analgesic and regulatory effects may be used more widely in patients with chronic pancreatitis pain.[194, 195, 196, 197, 198, 199, 200]

During chronic pancreatitis, many acupuncture techniques and systems are utilized on pain. More information about the use acupuncture for the abdominal pain management can be found in the *Chapter 40-Acupuncture and Pancreatic Disorders*.

It is the experience of the authors that inserting ear lobe tacks onto ear points such as Shen Men, Pancreas/Gallbladder or Point “Zero” very often significantly reduce levels of abdominal pain and improve the patients’ night sleep. Ear lobe tacks can remain for 2-3 weeks.

MSM (Methylsulfonylmethane) is a naturally occurring sulfur compound that plays a crucial role in the building of healthy cells. In their book, *The Miracle of MSM; The Natural Solution for Pain*, Stanley W. Jacob, M.D. and Ronald M. Lawrence, M.D., PhD write “MSM offers a natural way to reduce pain and inflammation without serious side effects. MSM may even deliver as much or even more relief as some of the standard painkillers – MSM just does not work as fast. That is because MSM is not a drug; MSM is a nutritional supplement. But you will often begin to experience noticeable easing of pain and discomfort, along with more energy, and in general feel better, within days of starting MSM”. [237]

Biotherapy DL-Pheine is a combination of the D and L form of the amino acid phenylalanine.

DL-Pheine blocks the enzymes that are responsible for the enkephalin (endorphin) degradation, substances within the body that help relieve pain. Some studies found that substances inside the Biotherapy DL-Pheine may be helpful in many individuals with chronic, intractable pain and can increase analgesic, anti-inflammatory and anti-depressant actions of acupuncture, so that it may have synergistic effects. [238, 239, 240]

To summarize, nutritional supplementation with MSM and Biotherapy DL-Pheine during regular acupuncture sessions may help to eliminate opioids and significantly improve the quality of life of the individual with chronic pancreatitis pain.

The combination of acupuncture and supplementation is safe and effective. The authors' observations conclude that this combination elevates the mood, decreases chronic inflammation, normalizes sleep, and keeps away from relapse after withdrawal from alcohol or opioids.

The mechanism of chronic pancreatitis pain is very complicated. Chronic pancreatic injury – the self-digestion of pancreatic tissue by its own enzymes causes inflammation that triggers pain. So, the healing process has to first focus on all stages of inflammation and, secondly, on the organ, peripheral and central pain mechanisms and pain perception.

What can be useful in controlling inflammation naturally?

The damage of tissue results in a release of a variety of substances from lysed cells as well as from different substances synthesized at the site of the injury. The tissue damage and inflammation lead to releasing a lot of acidic substances such as arachidonic acid, lactic acid, etc. Low pH (acidic) tissues' solution excites nociceptors, and pain is induced.
<http://neuroscience.uth.tmc.edu/s2/chapter06.html>

There are nutrient supplements such as antioxidants, vitamins, enzymes, amino acids, essential fatty acids, bioflavonoids, etc., that can control inflammation and alleviate chronic pancreatitis pain.

Antioxidants

In their article *Antioxidants and Pain Control in Patients with Chronic Pancreatitis: A Never-Ending Story*, Italian doctors Pezzilli R. and Fantini L. (2007) stated that antioxidant treatment may become a useful tool in preventing and curing the pain in patients with chronic pancreatitis. [241]

They investigated a series of clinical studies from different countries attempting to add antioxidant substances in patients suffering from various chronic pancreatitis. In some studies, insufficiencies of methionine and vitamin C were found aggravated by selenium deficiency.

In placebo-controlled double-blind switchover trials, using different oral antioxidant therapies (SAME) and vitamin C were identified as the keys to success. In other studies, the therapy consisted of SAME (800 mg per day), vitamin C (180 mg per day), vitamin E (130 mg per day), vitamin A (2400 µg per day), and selenium (75 µg per day) or curcumin led to the conclusion that the administration of antioxidants seems to be effective in the control of pain in chronic pancreatitis patients.

The scientists have verified that some antioxidants have anti-inflammatory properties. In addition to scavenging free radicals, antioxidants suppress inflammation. In combinations with other vitamins, minerals and trace elements (which may have anti-inflammatory actions), antioxidants may improve the quality of life of the individuals with chronic pancreatitis.[332]

Replacing Possible Deficiencies of Vital Nutrients

The “visceral sensitivity” or “visceral hypersensitivity” (excessive response to sensory stimuli within the gastrointestinal organs) are often described in many digestive disorders including chronic pancreatitis. Visceral perception between the gastrointestinal tract and the brain is modulated by a variety of mechanisms. One of the dysfunctions of these regulatory mechanisms can be peripheral neuropathy of internal organs.

There are two inter dependable serious reasons are for this neuropathy.

First, digestion is decreased mainly due to lower secretions of the pancreas and low gastric acid because of standard acid suppression by medications. This diminishes assimilation of many vital substances, which are responsible for proper functioning of the nervous system, brainwork, and perception of pain.

The second problem is dysbiosis and fermentation (rotting of indigested food). This leads to toxicity when inner poisoning overwhelms the organism. The toxic substances poison the brain, causing chaos in the balance of the neurotransmitters that are responsible for mood, sleep, joy and pain perception, as well.

Many studies found a shortage of minerals, trace elements, and vitamins in individuals with chronic pancreatitis. These essential nutrients have been found to reduce pain and improve the quality of life of patients with this disease. Minerals, trace elements and vitamins, are cofactors and coenzymes of digestive and metabolic enzymes, so their deficiencies create the following vicious circle:

Deficiency of minerals, trace elements and vitamins => low quality of pancreatic digestive enzymes => indigestion => deficiency of minerals, trace elements and vitamins

There are only two ways to break this vicious circle – improve the digestion and proper nutritional supplementation

Clinical observation supports using some minerals, trace elements, and vitamins for alleviating pain in chronic pancreatitis. At the Biotherapy, the authors use the following minerals, trace elements, and vitamins:

Healing mineral water prepared from genuine Karlovy Vary spring salt. More information can be obtained in the *Chapter 33 European-Style Healing for Digestive (Pancreatic) Disorders – Karlovy Vary Healing Mineral Water*

Vitamins B-1, B-2, B-6 - more than 100 mg daily*

Biotherapy Ester C - 2,000 – 3,000 mg daily

Biotherapy Sublingual B-12 - with folic acid (4,000 mcg of cobalamine + 1,600 mg of folic acid)

Biotherapy Pantothenate - (vitamin B-5) 1,000 – 1,500 mg daily

Sunshine D - (vitamin D-3) 5,000 – 10,000 IU daily

Immuno Zinc - 60-90 mg daily

Selenium ETE - 200 – 600 mcg daily

Biotherapy Cellular Magnesium-Potassium - 3-4 tablets (500 mg of magnesium and 200 mg of potassium) daily

Super Alpha Lipoic Acid - (1 capsule consists of 400 mg of Alpha Lipoic Acid and 3 mg of Biotine) 2-3 capsules daily

*These statements have not been evaluated by the Food and Drug Administration. The information on this book is presented for educational, informational purposes only. It is not intended as a substitute for the diagnosis, treatment and advice of a qualified licensed professional. Readers are encouraged to consult their knowledgeable licensed health care providers before beginning any cleanse, diet, detoxification program, or any supplement regimen.

In fact, pain perception depends upon the proper balance of neurotransmitters, especially serotonin, dopamine, GABA, acetylcholine, etc. Supplementation of precursors or modulators of neurotransmitters may normalize the mood, sleep, and alleviate chronic pain in individuals with chronic pancreatitis pain.

In their book *Encyclopedia of Natural Medicine*, Murray MT and Pizzorno, JE wrote “The beneficial effects of 5-HTP are thought to be due to elevation of serotonin levels, which increases pain tolerance and improves sleep quality. Combined Therapy with 5-HTP, St. John's Wort and Magnesium works better than using any of these treatments alone”. [242]

5-HTP - 100 – 200 mg during the day or before sleep

Biotherapy St. John's Wort - 600 – 900 mg a day

Biotherapy Cellular Magnesium-Potassium - 3-4 tablets

In case of insomnia and pain, before sleep is useful to take:

Biotherapy GABA - 1.000 -1.500 mg

Biotherapy Melatonin - 3 mg

Biotherapy Yin Formula 2-3 capsules

This information is not for self-nondrug treatment. In case of chronic pancreatitis pain, seek the advice of a licensed medical professional.

Mind/Body Connection

Working with the Mind/Body connection has been part of healing systems of indigenous peoples for thousands of years. According to the Mind/Body connection, there are interactions that take place between the mind, body,

and behavior. There are a number of techniques that implement the Mind/Body connection approach.

Medical hypnosis is rarely used for treating pancreatic pain in the United States. However, it is garnering more attention in recent years, as scientists search for effective, alternative, holistic treatment options for chronic pain. Many studies have demonstrated that hypnosis can provide temporary pain relief and may also lead to pain reduction over time. Such approaches can improve the quality of life and reduce disability related to chronic pain.

More information about using the Mind/Body connection approach for abdominal pain management, especially medical hypnosis and custom CDs can be found in the *Chapter 38-The Mind/Body Connection and Pancreas*.

Only severe pain will probably force the person with chronic pancreatitis to seek medical care. People 30-50 years of age that are alcohol dependent are usually in denial of their condition. They are reluctant to any lifestyle change and ask only on pain management. Hence, the large numbers of individuals with chronic pancreatitis have dependencies on painkillers, especially opioids and psych drugs even if they stop drinking alcohol.

a. Withdrawal from Opioids

The doctor's main goal is to reduce the patient's pain. In case of chronic pancreatitis with frequent attacks of severe abdominal pain, most of the patients require pain management. Almost always, opioids are prescribed to control the pain. After weeks of taking OxyContin, Codeine, Fentanyl, Morphine, Methadone, Darvocet, Dilaudid, Norco, Lortab, etc, most people become dependent.

The Walid-Robinson Opioid-Dependence (WROD) Questionnaire is designed primarily on the clinical guidelines of the World Health

Organization and the American Diagnostic and Statistical Manual of Mental Disorders for a definite diagnosis of “dependence” that requires three or more of the six characteristic features being experienced or exhibited:

- 1. Do you desire to continue taking your opioid medication?***
- 2. Do you now experience lengthy periods of usage or binge patterns?***
- 3. Do you have tremors and use substances to relieve withdrawal symptoms?***
- 4. Are you able to take more drugs without easing the pain?***
- 5. Do you neglect food, hygiene, or health care?***
- 6. Do you want to continue using the drug despite knowledge of problems caused or exacerbated by it?***

Adrian Preda, MD, Health Sciences Associate Professor of Psychiatry and Human Behavior at the University of California Irvine School of Medicine, in the article *Opioid Abuse* (2010) wrote about opioid addiction. <http://emedicine.medscape.com/article/287790>

Opioid use and abuse have increased in the United States from the 1990’s and continuing through to at least 2006. Moreover, increased opioid abuse coincides with a controversial U.S. campaign against under treatment of pain that has caused an enormous increase in opioid prescriptions. According to Adrian Preda, MD, abuse of prescription opioids has grown explosively during this time. A few statistics dramatically illustrate this problem:

- Americans constitute 4.6% of the world’s population, but consume approximately 80% of the world’s opioid supply
- Americans consume 99% of the world’s supply of hydrocodone (the opioid component of Vicodin)
- Americans consume roughly two-thirds of the world’s illegal drugs

Professor A. Preda writes,” *The 2006 National Survey on Drug Use and Health (NSDUH)*, sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA), provides data that graphically illustrate the increase in prescription opioid abuse in the last decade:

- Between 1999 and 2006, the number of individuals 12 years of age and older illicitly using prescription pain doubled from 2.6 to 5.2 million
- Prescription opioids have been suggested to be an important gateway drug and the fact that they are prescribed by doctors lulls users into believing they are safe
- The great majority of illicitly used prescription opioids are obtained from 1 physician, not from drug dealers”

The progression from illicitly using opioids to opioid dependence has dire consequences, including a yearly mortality rate of approximately 2%. Moreover, sustained remission from opioid dependence is difficult to achieve.

Continuous administration of opioids leads to physical dependence and the emergence of withdrawal symptoms during abstinence. Physical dependence is expected after 2-10 days of continuous use when the drug is stopped abruptly.

Withdrawal symptoms peak in 8-12 hours and last for 4-5 days. Symptoms of opioid withdrawal include the following:

- **Autonomic symptoms** - Diarrhea, rhinorrhea, diaphoresis, lacrimation, shivering, nausea, emesis, piloerection (the phrase stopping “cold turkey” refers to piloerection, or “gooseflesh”)
- **Central nervous system arousal** - Sleeplessness, restlessness and tremors
- **Pain** - Abdominal cramping, bone pains and muscle aching
- **Cravings for the medication**

Although GI symptoms such as nausea, vomiting and abdominal pain are predominant and common in opioid withdrawal, they may warrant consideration of gastroenteritis, pancreatitis, peptic ulcer disease and intestinal obstruction.

Opiate withdrawal is generally considered less likely to produce severe morbidity or mortality compared with barbiturates and benzodiazepines. Safe withdrawal from opioids is termed as detoxification and can be performed as outpatient or inpatient therapy, depending upon the following: presence of comorbid medical and psychiatric problems, availability of social support and polydrug abuse.

Effect of Opioids on the Gastrointestinal Tract

Lower Esophageal Sphincter

Action: Spasm

Possible Symptoms: Abdominal discomfort

Stomach

Action: Pyloric spasms, delayed gastric emptying, reduction of gastric secretion

Possible Symptoms: Nausea, vomiting, abdominal discomfort, gas

Gallbladder

Action: Spasms, reduced secretion

Possible Symptoms: Upper abdominal pain, constipation, indigestion of fat

Sphincter of Oddi

Action: Contraction, spasms, increased pressure inside the pancreatic and bile duct

Possible Symptoms: Upper abdominal pain, possible exacerbation of pancreatitis

Duodenum

Action: Spasms, decreased food transition time, decreased secretion

Possible Symptoms: Constipation, bloating, gas, cramps

Pancreas

Action: Reduction of pancreatic secretion, spasms of pancreatic ducts

Possible Symptoms: Possible exacerbation of pancreatitis, transient elevations in serum amylase

Colon

Action: Spasms

Possible Symptoms: Constipation, bloating, cramps

As seen above, opioids are not the best choices for chronic pancreatitis pain in the *pancreatic deficiency* stage.

Doctors or health professionals that try to help the individual with chronic pancreatitis pain have a dilemma: is the pain caused by pancreatitis or is the pain caused by the withdrawal of prescribed or non-prescribed opioids?

There is no easy answer to these questions. The dependent patient doesn't help either.

The relationship between abnormal pain sensitivity and opioid withdrawal is known. This condition is called *opioid-induced hyperalgesia* (OIH).

[341,342]

One of the authors (PM) often observed increased pain sensitivity in post-op periods, in patients, treated during surgery anesthesia with opioids. Constantly taking opioids for more than one month, exacerbation of pain after 4-6 hours after the last dosage of opiates and tolerance may help to make the decision. Tolerance is the need for increasing doses of medication to achieve the initial effect of the drug. There are some other symptoms of dependence such as bone pains, muscle aches, sleeplessness, restlessness, tremors, shivering 4-6 hours after taking the drug and certainly, craving for the medication.

In the *pancreatic deficiency* stage, pain changes during the day, and can be more frequent depending upon the time and quality of food consumption.

Accepting that an individual needs help to stop taking opioids is the most difficult step a person suffering from opioid addiction will ever face. This is perhaps the most critical step to recovery. Drug addiction is a medical condition and cannot only be treated successfully by self-discipline. That is why a psychology consultation with a medical professional is needed for the patient's decision making.

It is the experience of the authors, that with the help of the knowledgeable medical professional, friend or family member, and compliance of the patient, safe withdrawal from opioid drugs can result without serious complications in 3-5 days, even in an outpatient setting.

The authors emphasize the importance of drinking the healing mineral water made from the Genuine Karlovy Vary Thermal Spring Salt. This water promotes detoxification and removal of the drugs from the body

through the bile, stomach, large intestine and by alkalinizing urine through the kidneys.

Withdrawal from opioid painkillers is possible in the willing patients, and it is similar to alcohol withdrawal.

More information can be found in the *Chapter 40-Biotherapy Outpatient Program for Alcohol Cessation*.

It may seem as a paradox, but in some situations, especially when narcotics were used for a long time, that cessation of the drugs may decrease abdominal pain

Pancreatic Failure

Pancreatic failure is often characterized by persistent abdominal pain accompanied by increasing deterioration of exocrine and endocrine pancreatic functions that require several hospitalizations.

Treatment of chronic pancreatitis in the *pancreatic failure* stage has to involve a stepwise approach. First, the least invasive treatment options are utilized. Second, if the initial treatments are unsuccessful, then the next appropriate treatments can be used.

Even in this situation, combining the conventional methods with complementary approaches can improve the quality of life.

Interesting facts at a glance:

Chronic abdominal pain occurs when a person suffers from similar episodes of abdominal pain that take place over 3 months

In *acidic pancreas and bile* stage there are infrequent abdominal cramps and mild upper abdominal pain after heavy meals or alcohol intake

Potential reasons for this pain may include spasms of smooth muscles and eroding of mucous membranes of the upper abdominal, digestive organs, distension of the stomach, small intestine and colon with gas, fluid and fecal matter, increasing visceral sensitivity to pain and spasms and/or combination of those factors

In *pancreatic deficiency* stage of the chronic pancreatitis, there are attacks of abdominal pain and cramps, mostly in the epigastria area. Intermittent pain may last from hours to days. Pain may be worsened by eating or drinking alcohol.

In this stage, there are other more serious possibilities for pain that are caused by chronic inflammation, damage and destruction of pancreatic tissue

The broad spectrum of problems associated with chronic pancreatitis pain requires a comprehensive approach to pain and underlying processes

Combination of the *pancreatic deficiency* with metabolic acidosis and dysbiosis needs the comprehensive approach that may include Healing Diet, Drinking healing mineral water prepared from genuine Karlovy Vary spring salt. Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy, Anti-Candida Program, etc

Acupuncture, nutritional supplementation, medical hypnosis and herbal remedies can be beneficial part of any healing program for chronic pancreatitis pain

The simple way of taking painkillers in the *pancreatic deficiency* stage of exocrine pancreatic deficiency usually is not enough. It cannot stop the progression of the chronic pancreatitis and can lead to dependence

It may seem as a paradox, but in some situations, especially when narcotics were used for a long time, that cessation of the drugs may decrease abdominal pain

In *pancreatic failure* stage there is persistent abdominal pain in the middle of the abdomen, mostly in the epigastria area with irradiation to the back. Pain is triggered by food or alcohol intake

Even in this situation, combining the conventional methods with complementary approaches can improve the quality of life

Chapter 42-Anti-Candida Program

For individuals with a medical background

Candida-yeast overgrowth is a common condition

There is now one medical contradiction without a consensus. It is referred to by different names and terms including Candida, imbalance of intestinal flora, Candida-yeast overgrowth, yeast infection, gut flora imbalance, candidiasis, Small Intestine Bacterial Overgrowth (SIBO), dysbiosis, dysbacteriosis, etc. All these conditions reflect the imbalance of intestinal flora and consequently the health problems associated with it. The authors often use words “dysbiosis” or “Candida-yeast overgrowth” to describe this condition.

Candida species are unicellular yeasts, and they may be widespread in the body. Many of *Candida*'s species occur as undamaging endosaprophytes in the human organism but can become pathogenic when the microflora balance in the body is upset, immunity is lessened or the intestinal mucosal barrier is damaged, causing candidiasis. *Candida albicans* is an opportunistic pathogen that colonizes the mucosal membranes of the oral-pharyngeal, gastrointestinal and genitourinal tracts of most humans. *Candida albicans* can also enter the bloodstream to cause systemic infections that are extremely life threatening with a mortality rate of 40% despite the use of available anti-fungal therapies.[153]

Candida infections are now abundantly common mostly due to endogenous infections from the gastrointestinal tract and have a great impact on public health. Some health practitioners suppose that *Candida*-yeast infects as many as 89% of U.S. citizens, and on the contrary, some doctors consider that candidiasis may only affect people with serious immune deficiencies. However, growing evidence has been reported in the medical literature for the last decade that Small Intestine Bacterial Overgrowth (SIBO) advances intestinal dysbiosis.

More information about the pancreas involvement in intestinal dysbiosis can be found in the *Chapter 15-Intestinal Dysbiosis: Candida-yeast Overgrowth, Small Intestine Bacterial Overgrowth (SIBO)*

Candida – yeast infection is very influential and practical around the world. There are thousands of suggestions on how to cure *Candida* and the imbalance of intestinal flora. The authors don't want to be involved in any discussion about this topic, but express their viewpoint here backed by the scientific research and their own clinical experience.

Similar to many chronic conditions, dysbiosis has three stages: functional, compensating and decompensating. Treatments of these different stages require various approaches and time to be tailored to the changes of the condition.

In all these stages, there is a strict association with the digestive health and pancreatic function. Dysbiosis typically is present in the *acidic pancreatic and bile, pancreatic deficiency* and *pancreatic failure* stages of exocrine pancreatic deficiency.

There are interrelated factors such as Candida-yeast overgrowth, chronic metabolic acidosis and exocrine pancreatic deficiency that make a vicious circle. So, for better results, the treatment of dysbiosis has to focus on different aspects of this vicious circle.

For everyday clinical practice, there are problems with Candida-yeast detection because it is a part of the normal intestinal flora. As a result, Candida-yeast overgrowth in the early stage is very difficult to discover by ordinary medical tests.

Thanks to technology, dysbiosis has been able to be measured by breath tests for the last decade. At this time, many researchers began to pay attention to Small Intestine Bacterial Overgrowth (SIBO). Systemic candidiasis is easy to diagnose, but extremely difficult to treat.

For methodological purposes, putting into account the interrelation between dysbiosis and pancreatic function, the severity of dysbiosis may be divided accordingly among the three stages of exocrine pancreatic deficiency.

Acidic pancreas and bile

Candida mostly occupies the colon, vagina, mouth, nose, and throat

Pancreatic deficiency

Overgrowth of opportunistic infections involve the whole GI tract, including the colon, small intestine (SIBO) and pancreas

Pancreatic failure

Candida-yeast and other opportunistic infections, disseminate the entire organism, which leads to systemic candidiasis and other infected conditions

Acidic Pancreas and Bile Stage

All the factors that lead to metabolic acidosis such as a diet full of sugars and white flour, alcohol, processed foods (without natural digestive enzymes), stress, chemicals, antibiotics, hormones, food preservatives, environmental molds, fungus and other parasitic infestations destroy the friendly intestinal flora. Low amounts of the friendly intestinal flora lead to multiplying of the Candida-yeast that also suppresses the exocrine pancreatic function.

Taking antibiotics, birth control pills, hormones, some other chemicals and medications, have a negative impact on healthy intestinal flora, thus, causing Candida-yeast overgrowth, as well.

In the *acidic pancreas and bile* stage, Candida-yeast lives in warm, dark, and moist places. It grows more on surfaces, which have contact with the outside such as the mouth (thrush), vagina (yeast infection), nose (sinusitis), and colon (IBS).

Digestive symptoms of Candida-yeast overgrowth such as gas, bloating and abdominal cramps are often associated with the *acidic pancreas and bile* stage – the functional stage of exocrine pancreatic deficiency. Here, intestinal dysbiosis (Candida-yeast overgrowth) combines with conditions such as functional dyspepsia, biliary dyskinesia, GERD, Sphincter of Oddi Dysfunction type III, IBS, alcohol abuse, Metabolic Syndrome, etc.

Yeast produces mycotoxins and highly acidic waste that negatively affect the proper function of immune, hormonal and nervous systems causing non-digestive symptoms of Candida-yeast overgrowth. Symptoms include depression, fibromyalgia, insomnia and deteriorated immune responses such as allergies, food sensitivities, sinusitis, vaginitis and many others disorders combining with decreased digestion (low pancreatic function) that make the *acidic pancreas and bile* stage like a diagnostic puzzle. *Acidic pancreas and bile* is a functional and reversible condition.

Pancreatic Deficiency Stage

During this stage, almost all individuals develop severe intestinal dysbiosis when the deterioration of pancreatic (digestive) function and Candida-yeast overgrowth lead to parasite infestation and growth in the small intestine. This leads to other opportunistic gastrointestinal infections such as *Helicobacter pylori*, *Bacteroides fragilis*, *Giardia lamblia*, *Proteus vulgaris*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Streptococci*, *Escherichia coli*, *Staphylococci*, *Micrococci*, *Clostridium*, etc. This in turn, may cause

gastrointestinal inflammation and increase intestinal permeability with structural transformations.

In this stage, indigestion appears to create many nutritional deficiencies that also lead to immune, neurologic and hormonal problems, which are manifested in the clinical picture.

Possible diseases and conditions associated with *pancreatic deficiency* include clinical or subclinical episodes of acute pancreatitis, chronic pancreatitis, GERD, gastritis, gastric ulcers, duodenal ulcers, duodenitis, Sphincter of Oddi Dysfunction type II or III, gallbladder disorders (inflammation, stones, sludge, parasites), conditions after gallbladder removal, some surgeries on the upper GI tract, considerable intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth), intestinal parasites, IBD (Crohn's Disease, Ulcerative Colitis), Celiac Diseases, Cystic Fibrosis (early stage), Diabetes, alcohol abuse, some acute and/or chronic poisoning, etc.

Pancreatic deficiency is similar to the compensation stage, a partially reversible condition, where the remission may be prolonged by proper healing program.

Understanding the pathogenesis of dysbiosis in the *pancreatic deficiency* stage when opportunistic infections occupy not only the colon but the small intestine, may provide ideas for pathogenic treatment. Normally, there are low opportunistic infections such as Candida species in the stomach (stomach acid is a powerful antiseptic) and in the small intestine, thanks to antibacterial and antifungal activities of pancreatic juice.

Generally, normal pancreatic function, appropriate balance of friendly intestinal flora that control the growth of opportunistic infections, proper

immune responses and proper motility of the small intestine (flushing effect) all keep the small intestine almost free from yeast and bacteria.

Restoring these broken mechanisms is the main goal for treating dysbiosis in the *pancreatic deficiency* stage.

Pancreatic Failure Stage

Systemic candidiasis and severe Small Intestine Bacterial Overgrowth generally accompany the *pancreatic failure* stage of exocrine pancreatic deficiency. Here, treatment of the dysbiosis is extremely complicated, therefore, besides antibacterial and antifungal therapy, treatment requires restoration of the proper intestinal ecology and other methods of complementary medicine.

It is the opinion of the authors, the problems with terminology and acceptance of Candida-yeast overgrowth, depends on the stage, severity, and professional background of the specialists or health care professionals. All statements about “eradication”, “eliminating”, “forever free of Candida” and so on are very far from the pathophysiology of Candida overgrowth and other opportunistic infections in the gastrointestinal tract.

In general, most of the gastrointestinal disorders are developed slowly and may be exacerbated by some triggers. Symptomatic treatment switches the illness deep to a chronic course with declining and eventually, digestive function loss.

Practically, healing the root of the problem needs time. Ancient Chinese doctors believed that for “How many years the person suffers from the

disease, than so many months are needed for recovery”

Candida-yeast overgrows only if it has the opportunity to grow

The friendly intestinal flora is a main factor that controls the growth of opportunistic infections, particularly Candida-yeast, hence, the diminishing of friendly flora usually causes dysbiosis.

Restoration of friendly intestinal flora and the proper function of the pancreas are extremely powerful measures in all three stages of dysbiosis

There are some of the different approaches for healing strategies:

a. Biotherapy Program for Healing Dysbiosis

1. Acidic Pancreas and Bile Stage

The main problems are:

- Metabolic Acidosis
- Low amounts of friendly intestinal flora in the colon
- Improper amounts and quality of pancreatic juice and bile
- Some food sensitivities
- Some nutritional deficiencies

Solutions include:

**European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora
and Colon Hydrotherapy**

The main idea of this program is to remove toxins, waste material, yeast, parasites and pathogenic microorganisms and to restore the proper balance of friendly bacteria, normal digestion, proper amount of nutrients, etc. Whole body cleansing focuses on the cells, tissues, organs and the body as a whole by the following methods:

1. Anti-Candida diet
2. Drinking healing mineral water prepared from genuine Karlovy Vary thermal spring salt
3. Colon Hydrotherapy
4. Probiotics
5. Herbs (*Biotherapy Cleanse and Purify, Biotherapy Damp Water*, etc.)
6. Nutritional Supplementation

Throughout this book, the authors center the attention on the interrelation of low pancreatic function, metabolic acidosis, and dysbiosis. Hence, to achieve the therapeutic actions, there must be focus on these three main aspects.

There is scientific evidence that *Candida* grows faster in an acidic environment.[243] On the other hand, growth of *Candida* causes the release of highly acidic, toxic substances (*mycotoxins*) that may be one of the sources of metabolic acidosis.

Two basic actions are necessary to decrease the acidic condition. One action is supplying the organism with alkalizing minerals and bicarbonates, which neutralize the acid radicals. Besides an **alkaline diet** and **nutritional supplementation**, it will be exceptionally beneficial to drink **healing mineral water** prepared from Genuine Karlovy Vary Thermal Spring Salt.

The second action is to support the **detoxification** process to eliminate harmful acidic substances throughout the liver, bile system, kidneys, colon, etc.

In the *acidic pancreas and bile* stage, Candida-yeast seizes the colon, causing bloating, flatulence, spasms, and diarrhea/constipation.

The course of **Colon Hydrotherapy** sessions helps to remove the toxic waste from the colon and also create the beneficial environment for multiplying friendly intestinal flora. Colon Hydrotherapy helps to evacuate the dead Candida cells and restore normal bowel elimination.

Probiotics are the essential part of the anti-Candida program. Common advice such as “Eat yogurt” is too late when the yeast occupies the large intestine. More “heavy weapons” are necessary. There are hundreds of probiotics on the market. To avoid discussing, positive and negative peculiarities of probiotics, the authors share only their personal experience of using them in cases of dysbiosis.

For individuals lacking a medical background

To restore *Lactobacillus acidophilus* in the small intestine and to support implantation of *Bifidobacteria*, friendly bacteria supplements are utilized, including “Healthy Start” and “Trenev Trio” from the Natren Company.

The bacteria *Lactobacillus acidophilus* live in the small intestine while *Bifidobacteria bifidum* protect our large intestine. *Lactobacillus bulgaricus* is traveling transient bacteria that aid to reproduce the other two bacteria as it passes through the GI tract. When they are present in sufficient numbers, these three probiotic bacteria are beneficial to humans by holding the disease-producing organisms in check.

These friendly probiotic bacteria improve digestion and nutrient absorption, improve bowel regularity, and support natural immunity. They also help to produce the B vitamin complex, aid in predigesting proteins and the creation of amino acids and lactose, contain anticancer properties and can control cholesterol in the blood.

When friendly intestinal bacteria are present in sufficient numbers, they prevent invading pathogens and opportunistic organisms from finding “parking spaces” along the walls of the intestine where nutrients cross into the bloodstream. On the other hand, if too many harmful bacteria or yeast manage to set up colonies, nutrient absorption can be blocked. Fortunately, when the walls are crowded with acidophilus colonizers, there is no room for newcomers and invaders, and no way for opportunistic organisms to exceed their boundaries.

Certain super strains of beneficial bacteria also act to inhibit undesirable microorganisms by their production of hydrogen peroxide, lactic acid, and natural antibiotics. These substances threaten the existence of harmful bacteria.

However, only less than 10% of the human population has normal amounts of friendly bacteria. When we lose too many members of the friendly colonies, our first line of defense is weakened

For individuals with a medical background

b. Probiotics and Prebiotics

According to the German definition, probiotics are *defined viable microorganisms, of which sufficient amounts reach the intestine in an active state, and thus, exert positive health effects.* [245]

The intestinal microbiota, intestinal epithelium, and mucosal immune system form the gastrointestinal ecosystem. All three components are essential for the entire function of intestinal ecology. The viability of intestinal microflora (including probiotic strains) necessitates the availability of nutritional substrates (prebiotics), i.e. various types of fiber and oligosaccharides. Prebiotics are cleaved by microbial enzymes to numerous substances such as short-chain fatty acids, amino acids, polyamines, vitamins and antioxidants, which are crucial for metabolic and functional activities of the intestinal mucosa.

Prebiotics are usually dietary fibers with a well-established positive impact on the intestinal microflora.

The main probiotics in use include lactobacilli and bifidobacteria. Experimental and clinical studies of probiotics found that they are beneficial in digestive diseases, allergic and atopic disorders, as well as in various extra intestinal conditions.

According to the 2008 article by Michael de Vrese and J. Schrezebmeir [245] that was published in *Advances in Biochemical Engineering/Biotechnology*, the well-established probiotic effects are:

1. Prevention and/or reduction of duration and complaints of rotavirus-induced or antibiotic-associated diarrhea as well as alleviation of complaints due to lactose intolerance
2. Reduction of the concentration of cancer-promoting enzymes and/or putrefactive (bacterial) metabolites in the gut
3. Prevention and alleviation of unspecific and irregular complaints of the gastrointestinal tracts in healthy people
4. Beneficial effects on microbial aberrancies, inflammation, and other complaints in connection with: inflammatory diseases of the gastrointestinal tract, *Helicobacter pylori* infection or bacterial overgrowth
5. Normalization of passing stool and stool consistency in subjects suffering from constipation or an irritable colon
6. Prevention or alleviation of allergies and atopic diseases in infants
7. Prevention of respiratory tract infections (common cold, influenza) and other infectious diseases as well as the treatment of urogenital infections

Insufficient, or at most preliminary evidence, exists with respect to cancer prevention, a so-called hypocholesterolemic effect, improvement of the mouth flora and caries prevention or therapy of ischemic heart diseases or amelioration of autoimmune diseases (e.g. arthritis).[245]

Papers that were delivered by Borchers AT *et al.* and published in the *Journal of Gastroenterology* in 2009 discover the improvements in the intestinal microbial balance after probiotics. These researchers stated that there is now substantial evidence that probiotics can also provide benefits by modulating immune functions. “Promising results have been obtained

with probiotics in the treatment of human inflammatory diseases of the intestine and in the prevention and treatment of atopic eczema in neonates and infants”.[244]

Experts in the clinical use of probiotics, Olmstead, S *et al.* (2011) in their article *Practical Use of Probiotics and Prebiotics* focused on the efficiency of probiotics. They recommended probiotics for many conditions including:

- > Dysbiosis
- > Antibiotic-Associated Diarrhea
- > Inflammatory Bowel Disease
- > Irritable Bowel Syndrome
- > Atopic Diseases
- > Genitourinary Disorders in Women

The research group, lead by Harvard Medical School graduate Stephen Olmstead, MD concluded: “For more than a century, people have knowingly consumed probiotics for health benefits. They are an effective approach to correcting intestinal dysbiosis and treating gastrointestinal and systemic diseases. Consumption of probiotics is safe in a variety of patient populations and clinical scenarios. Care should be taken to select documented, tested probiotics from reputable manufacturers. As we learn more about how gastrointestinal dysbiosis is related to disorders throughout the body, the spectrum of diseases amenable to probiotic intervention will continue to expand”.[267]

c. Herbal Remedy

The plants, similar to human beings, are surrounded by a myriad of microorganisms such as microbes, fungi, parasites, etc. The plant kingdom developed a survival strategy by manufacturing the substances against invaders. People have known and used these plants from prehistoric times. Botanicals have a long history of being ingested for many digestive ailments, as well.

World cuisine widely uses some of these plants as spices. Spices prevented food spoilage long before the creation of refrigeration and modern ways of food conservation. Humankind selects spices for improving taste and promoting appetite. However, spices are most useful for their ability to avoid signs of indigestion such as gas, bloating, abdominal spasms, and diarrhea due to food spoilage.

Spices may be the result of natural selection. Generation by generation, perhaps only people who ate spicy food survived and this resulted in spicy plants being used in different national cuisines. According to evidence, most spices are not harmful to friendly intestinal flora. Spices work together with friendly intestinal flora to suppress growing opportunistic infections such as yeast and parasites. Using the variety of spices greatly diminishes chances for the survival of Candida-yeast and other parasites by mutation.

Many tropical plants also contain anti-Candida activities. Warm and damp tropical climates give yeasts and other parasites opportunities to multiply all year round, therefore, the plants from tropical countries have developed some kinds of chemical defense mechanisms. Researchers extracted a significant number of anti-Candida substances from coconut, ginger, turmeric, pau d'arco, cat's claw, olive, lemongrass, cayenne, and many other tropical plants.

Using botanicals is a crucial part of the Biotherapy protocol for healing dysbiosis (Candida-yeast overgrowth and SIBO) in all three stages of exocrine pancreatic deficiency: *acidic pancreas and bile*, *pancreatic deficiency* and *pancreatic failure*.

All Biotherapy's unique herbal formulas such as **Damp Water, Cleanse and Purify, Lower Bowels Formula** and **Yin Formula** consist of plants with well-established anti-fungal and anti-parasite activities. The authors widely use them, according to the situation and necessity, often altering them to avoid resistance of microorganisms to these remedies. Drinking herbal teas such as *Pau D'Arco, Chamomile, Peppermint, Fennel, St John's Wort and Licorice* are helpful both as anti-Candida remedies and for relieving the digestive problems.

The authors place attention on the antimicrobial and antifungal substances derived from plants (currently referred to as botanicals).

Botanicals:

1. Are used by many individuals as food
2. Cause unusually little harm to friendly intestinal flora
3. Are not toxic, so, they do not cause serious side effects
4. Have positive actions on other bodily functions as well
5. Are cheap and easy to use

These substances are now under serious scientific investigation. Some botanicals that contain antibacterial and antifungal activities with their well-researched components are listed in the table below.

In the Small Intestine Bacterial Overgrowth (SIBO), it is recommended to consume some of these plants as food. Other botanicals are parts of Biotherapy's herbal formulas, and various botanicals are used as herbal teas. It is necessary to change the botanicals to avoid resistance and take them for a long time (months).

It is necessary to remember that herbal medicine is part of the holistic program for dysbiosis and it works better by combining with other approaches. Below are some examples of herbs and their active ingredients to control Candida-yeast overgrowth.

Berberin (berberine)

Cat's Claw (quinic acid)

Chamomille (chamazulene)

Coconut (caprylic acid, lauric acid)

Fennel (terpenoid anethole)

Garlic (alliin)

Ginger (gingerdiols, gingerols)

Golden Seal (berberine)

Juniper (myrcene, tannins)

Olive Leaf (oleuropein)

Onion (alliin)

Oregano carvacrol)

Pau D'arco (lapachol)

Peppermint (menthol, limonene, azulene)

Rhubarb (anthraquinone, tannins)

Sage (borneol, camphor)

St. John's Wort (hypericins, aryophyllene)

Thyme (thymol)

Turmeric (curcumin)

Uva Ursi (arbutin)

Valerian (valeric acid, valepotriates)

Yarrow (borneol, eugenol)

d. Nutritional Supplementation

It is impractical to compare nutrition supplementation with pharmaceutical medications. Medical drugs typically have specific targets for body function. Nutritional supplementation supplies the body with essential, natural nutrients. Both categories have indications for prescribing and consuming, may have synergistic, or opposite effects, may be combined, etc.

Most nutritional supplementation includes taking vitamins, minerals, trace minerals, amino acids, essential fatty acids and enzymes. They have broad, non-specific actions that may overlap. The *acidic pancreas and bile* - functional, reversible stage of pancreatic deficiency, including Candida-yeast overgrowth, frequently has a very positive response on nondrug healing programs. Certainly, it requires the patient to be fully involved in this program without counting on a “quick fix”.

The Biotherapy Anti-Candida Program has 5 parts:

Part One – Starve and Kill the Candida

Colon hydrotherapy, diet, herbs, supplements, enzymes

Part Two – Restore Friendly Intestinal Bacteria

Diet, probiotics, KVHMW

Part Three – Evacuate the Dead Candida and Toxins from the Body

Colon hydrotherapy, KVHMW, herbs, therapeutic exercises

Part Four – Restore Proper Digestion and Replace Missing Nutrients

Diet, probiotics, KVHMW, herbs, supplements, enzymes

Part Five – Enhance the Immune System and Relieve Stress

Acupuncture, supplements, diet, probiotics, herbs, hypnosis

2. Pancreatic Deficiency Stage

In this stage of exocrine pancreatic deficiency, the symptoms of dysbiosis change. They become more severe and involve the entire gastrointestinal tract, particularly the small intestine. Thus, Small Intestine Bacterial Overgrowth (SIBO) develops. In almost all disorders and conditions that include the *pancreatic deficiency* stage of exocrine pancreatic deficiency, there is both Candida-yeast overgrowth and SIBO.

Noninvasive breath tests, which have been widely used to identify Small Intestine Bacterial Overgrowth, now aid in making this diagnosis easier and thus, more common. To enhance the therapeutic action on this serious condition, one has to focus on what factors can prevent bacterial overgrowth in the small intestine. It is known that, in normal conditions, far fewer bacteria inhabit the small intestine than the abundant growth found in the colon.

A few key items keep bacteria, yeast, and parasites away from the small intestine: antibacterial abilities of the stomach acid and pancreatic juice, flushing actions of intestinal juice, the number of friendly intestinal flora (lactobacilli), strong immune function and the proper job of the ileocecal valve

This book is dedicated to helping restore these essential functions by focusing on exocrine pancreatic function, metabolic acidosis, and dysbiosis simultaneously.

How about killing or suppressing the growth of opportunistic infections in the entire gastrointestinal tract? It is certainly necessary in some situations. There are many antibacterial and antifungal agents for these purposes, such as:

- Antibiotics and synthetic antifungal pharmaceutical drugs
- Plant antimicrobial and antifungal substances
- Other antimicrobial and antifungal substances from different origins (minerals, oxidizers, bee products, etc)

Yeast, microbes, and viruses of living organisms compete both for space and for food, and have their own survival mechanisms by manufacturing many chemicals to kill or restrict reproduction of other microorganisms. The similar mechanisms exist in plants and animals to survive between microorganisms, as well. The human body has more microorganism cells than its own cells. Through evolution, some microbes live in the human body with a dynamic balance between the human control system and microorganisms. If this gentle balance is broken, diseases occur.

Thanks to the attention and scientific talent of Alexander Fleming in the 20th century, the antibiotics era began. He discovered that ordinary mold (yeast) releases the substances that suppress the growth of staphylococci cultures in the petri dish. The first antibiotic was penicillin, derived from yeast. Thus, it became clear that most of the antibiotics do not kill the yeast.

Antibiotics save millions of lives, but they cannot kill 100% of the pathogenic microbes. The survived microorganism, by mutation, develops antibiotic resistant strains. On the other hand, antibiotics kill the gentle, friendly intestinal flora, paving the way for opportunistic flora (yeast, microbes, viruses, parasites) to possibility grow. Information about antibiotics and medication is not the subject of this book.

In the *pancreatic deficiency* stage of exocrine pancreatic deficiency, it is useful to consume Biotherapy herbal formulas such as

Biotherapy Cleanse and Purify – cleansing, astringent, antiseptic, choleretics, cholagogue herbs

Biotherapy Damp Water - cleansing, carminative, antiseptic, diuretic, choleretics, cholagogue herbs

Biotherapy Lower Bowel Formula - cleansing, purgative, bowel tonics, antiseptic herbs

Biotherapy Yin Formula - carminative, calmative, analgesic, antiseptic, cholagogue herbs

Biotherapy Pancreatic Herbal Formula is a unique, safe, simple, and active herbal remedy that has been used by the authors for many pancreatic (digestive) disorders for a long time, especially in the *pancreatic deficiency* and *pancreatic failure* stages. Biotherapy Pancreatic Herbal Formula consists of five well-known herbs (chamomile, oregano, sage, peppermint, thyme) in a special combination. These herbs have antiseptic actions; thus, they control the overgrowth of opportunistic infections. All herbs from this formula have a long history of usage in many digestive disorders such as gas, abdominal distention and pain, indigestion, chronic diarrhea, parasites, etc.

Biotherapy Olive Leaf Extract has an active component: a phenolic compound known as oleuropein. It is being recognized as a strong and quite safe antiseptic.

Berberine Complex contains extracts of barberry, Oregon grape and goldenseal. These herbs are sources of the natural alkaloid compound berberine.

Mentharil includes oil extracts of peppermint, rosemary and thyme.

Para-Gard is a formula for intestinal defense against parasites, fungal overgrowth, and bacterial overgrowth. It contains berberine, grapefruit extract, gentian, garlic, black walnut, goldenseal, quassia, and wormwood.

Yeast Formula supports healthy yeast balance. This supplement includes oils of oregano, thyme, and peppermint with a goldenseal root.

Other antimicrobial and antifungal substances such as minerals, oxidizers and bee products had been used for decades before the era of antibiotics and now are almost forgotten. These substances are not intended for self-treatment because they are very potent, may have side effects and need to be used only under the supervision of a knowledgeable health care professional.

Biotherapy Iodine Balance: Iodide/iodine as Lugol's solution has been a classical anti- yeast, anti-fungal agent for decades and can be used to fight with Candida infestation in the blood and GI tract. Iodine supplementation has to be combined with magnesium/potassium.

Biotherapy Cellular Magnesium –Potassium: Magnesium and potassium as cofactors of enzymes take part in a myriad of enzymatic reactions. Salts of these minerals with Krebs organic acids promote their transport exactly into the cells where they are badly needed. The concentration of these vital minerals in the cells is an essential factor for life and the proper work of cardiovascular, nervous, hormonal, immune and gastrointestinal systems.

Bee Propolis is a vital substance for the survival of the honeybees in the beehive. It sterilizes the hive and protects bees against diseases and infections. Because of its antibacterial, antifungal, antiviral, anti-inflammatory and antioxidant effects, propolis has been used as a healing remedy of many cultures for many centuries.

Focusing only on antibacterial and antifungal therapies often neglects the antibacterial and antifungal actions of the body itself. To enhance the immune response, weakened by yeast overgrowth and due to deficiencies of many vital substances because of low digestion, it is necessary to supply the body with immune boosters. This may improve the self-defense of the human organism to bacterial and fungal/yeast overgrowth.

3. *Pancreatic Failure Stage*

Systemic candidiasis and severe Small Intestine Bacterial Overgrowth generally accompany the *pancreatic failure* stage of exocrine pancreatic deficiency. Treatment of dysbiosis in this stage is extremely complicated, therefore, besides antibacterial and antifungal therapies; it requires the restoration of the proper intestinal ecology and other methods of complimentary medicine.

Interesting facts at a glance:

Dysbiosis is present in all chronic conditions and has three stages: functional, compensating and decompensating

These stages can be easily correlated with the three stages of the exocrine pancreatic deficiency: *acidic pancreatic and bile*, *pancreatic deficiency* and *pancreatic failure*

In the *acidic pancreas and bile* stage, Candida mostly occupies the colon, vagina, mouth, nose and throat

In the *pancreatic deficiency* stage, the overgrowth of opportunistic infections involves the whole GI tract, including the colon, small intestine (SIBO) and pancreas

In the *pancreatic failure* stage, Candida-yeast and other opportunistic infections, besides the GI tract, disseminate the entire organism, which leads to systemic candidiasis and other infected conditions

Restoration of friendly intestinal flora and proper function of the pancreas are extremely important measures in all three stages of dysbiosis

European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy is the basis of Biotherapy's program for healing dysbiosis. It also requires other approaches:

- > Starvation and Killing the Candida: colon hydrotherapy, anti-Candida diet, herbs, supplements and enzymes**
- > Evacuating the Dead Candida and Toxins from the Body: colon hydrotherapy, KVHMW, herbs and therapeutic exercises**
- > Restoration of Friendly Intestinal Flora: anti-Candida diet, probiotics and KVHMW. Care should be taken to select documented and tested probiotics from reputable manufacturers**
- > Relieving Stress: acupuncture, supplements, diet, herbs and medical hypnosis**
- > Enhancing the Immune System: probiotics, acupuncture, supplements, diet and herbs**
- > Restoration of Proper Digestion and Replacing Missing Nutrients: anti-Candida diet, probiotics, KVHMW, supplements and herbs**

Treatment of dysbiosis is extremely complicated, therefore, besides antibacterial and antifungal therapies; it requires the restoration of the proper intestinal ecology and utilization of other methods of complementary medicine

Chapter 43-Nutritional Therapy for Pancreatic Deficiency

For individuals lacking a medical background

The myriad of health problems that plague our modern world results from weaknesses in the body. This generally happens due to poor nutrition, sedentary lifestyles, and chronic stress. Regarding the digestive (pancreatic)

disorders, many deficiencies are especially aggravated by bad digestion and poor assimilation of the vital nutrients from food.

Three most common factors that exaggerate nutritional deficiencies in chronic pancreatitis are:

1. Low amounts of nutrients in the food
2. Low pancreatic function => poor digestion and assimilation
3. Extensive nutrient loss (diarrhea, vomiting, urination, sweating)

Currently, it is almost impossible to receive all our essential nutrients only from food. Soil is depleted, food is highly processed, and the world is filled with toxins.

Low amounts and poor qualities of the pancreatic juice do not allow food to be properly digested, as well. In addition, the body loses vital substances through vomit, chronic diarrhea, etc. Age, some medications and poor appetite make things worse.

As a car will not run without gasoline, so our body organs will not work properly without the right nutrients. Nutritional supplementation shall replace deficiencies by using nutritional supplementation with minerals, trace elements, vitamins, essential fatty acids, amino acids, enzymes, probiotics, etc. These nutritional supplements in appropriate amounts may also contain curative actions. The insights of food scientists play a significant role in the practice of nutritional therapy for healing purposes.

Many vital nutrients are beneficial to combat digestive diseases. There are two nutrients, though, that the human being cannot exist without: magnesium and potassium.

For individuals lacking a medical background

What Are Magnesium and Potassium?

Our body needs magnesium and potassium for the proper composition of body fluids, the formation of blood and bones, food digestion, the maintenance of healthy nerve function and the regulation of muscle tone and the cardiovascular system. Every second of the day, our bodies depend on magnesium and potassium, to generate billions of tiny electrical impulses throughout the nervous system. Without proper amounts of magnesium and potassium, our hearts would cease beating, muscles would freeze, brains would stop working, and we would not generate energy from our food. Most enzymatic functions depend on small amounts of magnesium and potassium.

60 -70% of the human body consists of water mineral solutions. Sodium and calcium are collected mainly outside the cells and magnesium and potassium are accumulated inside the cells. The body spends enormous amounts of energy to maintain this balance. Health and proper functioning of all organs vitally depend on how much magnesium and potassium are inside the cells. Low amounts of these lifesaving minerals equate to weak cellular energy, placing our health in jeopardy.

Why Are Magnesium and Potassium Necessary?

75% of Americans are deficient in magnesium. If the body is deficient in magnesium, it also is lacking in potassium, so it is wise to take them together. Magnesium is depleted from processed foods. Current soils lack

magnesium and potassium, as well; therefore, many vegetables and fruits do not have enough of these vital minerals as they had 100 years ago.

Acid-forming food such as sugar, sodas, white flour, processed meat and fat cause an acidic environment inside the body. To neutralize this acidity, the body borrows magnesium and potassium from the muscles, bones, and brain and leaves them deficient of these minerals. This leads to osteoporosis, chronic fatigue, irregular heart contractions, brain fog, high blood pressure, constipation, etc. People that drink alcohol also need the proper amounts of magnesium and potassium. The elderly, athletes, and dieters desperately need magnesium and potassium. Individuals suffering from chronic diseases such as diabetes, high blood pressure, liver diseases, chronic pancreatitis, etc., usually have low amounts of magnesium and potassium in the body.

What Are the Benefits of Having More Magnesium and Potassium Inside the Cells?

◁> **Acid – alkaline balance:** Optimal health depends on the body's ability to maintain a slightly alkaline state of the blood pH at 7.4. Acid-forming foods, sedentary lifestyles, stress, some medications, and alcohol shift the blood to an acidic state. To survive and for the vital organs such as the heart, lungs and brain to keep working, the body absorbs magnesium and potassium from muscles and bones. Acidity kills the alkaline glands such as the liver and pancreas. This, in turn, suppresses the digestion of magnesium and potassium from food, making a vicious circle.

◁> **Cardiovascular diseases:** Low amounts of magnesium and potassium are associated with heart failure, cardiac arrhythmia, angina pain, mitral valve prolapse, high blood pressure, cholesterol deposits in arteries or acute thrombosis.

◁> Low amounts of magnesium and potassium in the body has also been linked to **chronic fatigue syndrome (CFS)** and acute **migraine** attacks.

◁> Magnesium deficiency may lead to **overweight** issues, **Metabolic Syndrome**, and **diabetes**.

◁> Low magnesium links to all kinds of **spasms**, **seizures**, **pains** and **leg cramps**.

◁> Magnesium and potassium also **balance cholesterol** and are necessary for **endocrine function**.

◁> Magnesium is an **anti-stress** mineral. Even a mild deficiency of magnesium can cause **depression**, **nervousness**, **irritability**, **twitching**, and **insomnia**.

◁> Magnesium deficiency is an additional risk factor for **osteoporosis**.

◁> Magnesium and potassium are vital for **pancreatic health**.

◁> Low magnesium and potassium can cause **constipation**.

Some information on this topic may be found at:

http://www.lef.org/prod_hp/abstracts/php-ab236a.html

<http://www.mgwater.com/index.shtml>

The body does not need a miracle - It needs magnesium and potassium

If My Blood Test Is Normal, Why Should I Take Magnesium and Potassium?

The diagnosis of magnesium and potassium deficiency is not simple since the blood level of magnesium does not always reflect the state of minerals in the body. It is almost impossible to overdose magnesium and potassium orally if the adult person urinates more than 800 ml and does not have the advanced stage of kidney failure. Healthy kidneys rapidly excrete the mineral excess.

For individuals with a medical background

Nutritional therapy is based on the science that disease is the consequence of nutritional deficiencies in our food. These deficiencies accumulate over time and negatively impact cells, organs and the entire body. In addition, diseases by themselves or the treatment process can lead to nutritional deficiencies, which make a vicious circle.

Nutritional therapy for *pancreatic deficiency* has two principal directions.

First, nutritional supplementation has to replace the various deficiencies of vital substances in person with *pancreatic deficiency*.

Second, many vitamins, minerals, enzymes, probiotics, essential fatty acids and amino acids in proper amounts have a curative effect on *pancreatic deficiency*.

All individuals with any stages of exocrine *pancreatic deficiency* have some shortages of essential nutrients. They can be either subclinical with minimum symptoms, or serious problems such as deficiencies of vitamins, minerals, essential fatty acids and amino acids or serious metabolic, hormonal or neurologic disorders that overlap the clinical picture and deteriorate the main process.

3 Stages of Exocrine Pancreatic Nutritional Deficiencies

Acidic Pancreas and Bile

Mild: bicarbonate, minerals (magnesium, potassium), trace elements, vitamins, natural enzymes, probiotics, etc

Pancreatic Deficiency

Obvious: bicarbonate, minerals (magnesium, potassium), trace elements, vitamin B-12, folate, other vitamins, natural enzymes, probiotics, etc

Pancreatic Failure

Severe: bicarbonate, minerals (magnesium, potassium), trace elements, proteins, essential amino acids, lipids, essential fatty acids, fat soluble vitamins (A, D, E, K), vitamin B-12, folate, other vitamins, natural enzymes, digestive enzymes, probiotics, etc

a. 5 Common Causes for Nutritional Deficiency in Chronic Pancreatitis

What kinds of factors harmfully affect the nutritional status of a person with chronic pancreatitis in the stages of *pancreatic deficiency* and *pancreatic failure*?

- **Poor eating habits:** The common factor that triggers nutritional deficiencies is the lack of natural digestive enzymes in modern food. Natural digestive enzymes are living proteins, which are destroyed by the current food technology. This places an enormous effort on the pancreas to produce pancreatic enzymes to complete digestion.

Over time, pancreatic function depletes and digestion and assimilation of nutrients diminishes. Modern agriculture and food technology reduce the amount of vitamins and trace elements in the food, and, on the other hand, bring in many artificial chemicals that may contribute to nutritional deficiencies. In addition, there is a “human factor.” The nutrition experts are preoccupied today with the study of overweight issues and malnutrition of modern populations. Dieting, sport and age related nutritional deficiencies are also particularly common.

The poor eating habits usually accompany any disorders and diseases that associate with the *acidic pancreas and bile, pancreatic deficiency* and

certainly, *pancreatic failure* stages.

- **Metabolic acidosis:** The right amount and proper balance of the minerals are the main factor of the normal acid – alkaline balance in the human organism. Minerals neutralize acids. If saliva and urine pH is less than 6.6, then this is usually a sign of acidic conditions (metabolic acidosis); thus, mineral deficiencies are present. Metabolic acidosis decreases the alkaline reserve and leaches calcium and magnesium from bones and magnesium and potassium from the muscles. Metabolic acidosis wrecks havoc on the digestive system and assimilation of essential nutrients.

Constant deficiencies of magnesium, potassium and bicarbonate in modern food products and the abundance of acid forming substances propitiate chronic metabolic acidosis and decreased pancreatic health. Acidity kills the pancreas.

- **Dysbiosis:** Two very critical factors negatively influence the nutritional status of individuals with dysbiosis. First, there is the reduced number of friendly intestinal flora that promotes proper digestion and manufactures vitamins and other essential nutrients. Second, overgrowth of the yeast, parasites, and “bad” bacteria disturb the normal digestive process, steal the body’s nutrients, and create a large number of toxic substances. The epidemic of dysbiosis (when the friendly flora is weakened, and Candida - yeast and Small Intestinal Bacterial Overgrowth are present) makes a burden on the digestive systems and causes deficiencies of essential nutrients.

- **Exocrine (digestive) pancreatic deficiency:** Leads to diminishing of the nutritional status of patients with chronic pancreatitis. Malnutrition in these individuals associates with the failure of the pancreas to secrete adequate amounts of properly working digestive enzymes. In the late stage of chronic pancreatitis, the incomplete breakdown of dietary lipids, protein, and carbohydrate occurs (maldigestion), preventing efficient absorption of nutrients from the intestine (malabsorption). Disorders of the pancreas affect

nutritional status significantly. On the contrary, nutrition may play a role in the susceptibility of the pancreas to injury, which often results in chronic pancreatitis.

- **Alcohol Consumption:** Poor diets and malnutrition related to alcohol abuse are significant factors associated with pancreatic damage in alcoholics. Alcohol abuse is common in patients with chronic pancreatitis; therefore, they usually suffer from malnutrition and a large number of deficiencies.

The most obvious chronic pancreatitis nutritional abnormalities occur in the *pancreatic deficiency* and *pancreatic failure* stages of exocrine pancreatic deficiency. The question that was discussed in the medical literature is: Does malnutrition cause chronic pancreatitis or does chronic pancreatitis cause malnutrition? It is similar to the age-old question: Which came first, the chicken or the egg? This is a vicious circle and all healing actions have to focus on “cutting” this circle.

Malnutrition <====> Chronic Pancreatitis

Malnutrition is not only low in calories, but, the calories are “empty” from acid forming foods (devoid of proper amounts of minerals and vitamins) and come from “dead” food without living natural digestive enzymes.

On the other hand, problems with digestion due to low pancreatic function lead to “starvation around abundance of food”.

A good example is tropical pancreatitis (a chronic calcifying form of pancreatitis) occurring in nonalcoholics from areas where malnutrition is prevalent, such as India, Southeast Asia and some parts of Africa. Calcification of the pancreas is a sign of severe acidosis when the body borrows the calcium from bones to neutralize the acidity. Due to high concentration in the blood, calcium precipitates in the vessels, internal

organs and fluids (bile, urine) causing calcification and formation of the stones.

Chronic pancreatitis results in exocrine and endocrine dysfunction and affects normal digestion and absorption of nutrients. Some deficiencies may be overlooked, potentially leading to nutrition-related problems. The aim of the following information is to describe the symptoms and possible deficiencies that occur and to propose some nutritional therapy for patients with chronic pancreatitis.

Nutritional Consequences of Chronic Pancreatitis

Some information for this issue was accepted from the book of Hauser SC, Pardi DS, Poterucha JJ. *Mayo Clinic gastroenterology and hepatology board review*. 2005. Second addition. Mayo Clinic Scientific Press.[252]

Symptoms of Chronic Pancreatitis ---Possible deficiencies

Anemia: iron, B-12, C, folic acid, thiamine, albumin

Arrhythmias: magnesium, potassium, fatty acids, amino acids, vitamin B-1 (thiamine), B-6, iodine

Bone pain: vitamin D, calcium, protein

Bruising, bleeding: vitamin K, C

Bulky, greasy stool: essential fatty acids, fat-soluble vitamins (A, D, E, K), choline, folate, carotene

Cheilosis, stomatitis, glossitis: vitamin C, B-2, B-6, B-3(niacin), B-12, folate, iron

Chronic diarrhea, weight loss: many vital nutrients due to malabsorption

Depression, memory loss: vitamin B-1, B-6, B-3 (niacin), B-12, D, magnesium, essential fatty acids, iodine

Dermatitis: vitamin A, B-2, B-6, B-3 (niacin), essential fatty acids, zinc

Edema, ascitis: protein (albumin)

Fatigue, depression, bleeding gums, impaired wound healing, muscle pain, low immunity: vitamin C

Glucose intolerance: chromium, magnesium, vitamin B-1, zinc

Goiter, hypothyroid: iodine, amino acids, zinc, selenium

Night blindness, xerophthalmia, hyperkeratosis, abnormal taste, and smell: vitamin A

Osteopenia, osteoporosis: vitamin D, bicarbonates, magnesium, calcium, vitamin K, C

Peripheral neuropathy: vitamin B-1, B-6, B-12, E, D, folate, essential fatty acids, magnesium

Tetany, cramps: magnesium, potassium, calcium, vitamin D

Weakness, anorexia, nausea, psychosis: vitamin D, B-12, folate, zinc, magnesium

Wernicke/Korsakoff encephalopathy, cardiac failure, weakness, and paresthesia of legs: vitamin B-1 (thiamine), magnesium

Taste, smell defect: zinc

Some deficiencies need more attention because they are common and have a close relationship with pancreatic health.

Lack of adequate nutrition and metabolic acidosis in alcoholics, in Western countries, may trigger chronic pancreatitis, as well. Alcoholics replace the nutritional foods by highly acidic forming alcoholic beverages that may provide energy by, so called, empty calories. In addition, their food is very acidic forming (meat, potatoes, animal fats, sugars, etc.) and is deficient in

vital natural digestive enzymes, vitamins, and minerals, especially magnesium and potassium.

People suffer from biliary pancreatitis normally after ages 50-60. They are usually overweight or have Metabolic Syndrome or diabetes with multiple nutritional deficiencies, as well.

The authors consider that the majority of individuals with different stages of exocrine *pancreatic deficiency* have obvious or hidden nutritional deficiencies, which have to be corrected to postpone the ongoing inflammation and pancreatic deterioration.

Clinical investigations and scientific studies show that a person with pancreatic (digestive) disorders can have one or more deficiencies of the essential nutrients including:

- > Minerals such as Magnesium and Potassium and trace elements such as Zinc, Chromium, Iodine, Selenium, Lithium, etc
- > Fat-soluble vitamins A, D, E, K
- > Water-soluble vitamins such as C, B-1, B-2, B-6, B-12, folate, etc
- > Essential fatty acids
- > Essential amino acids

b. Magnesium and Potassium for Pancreatic Health

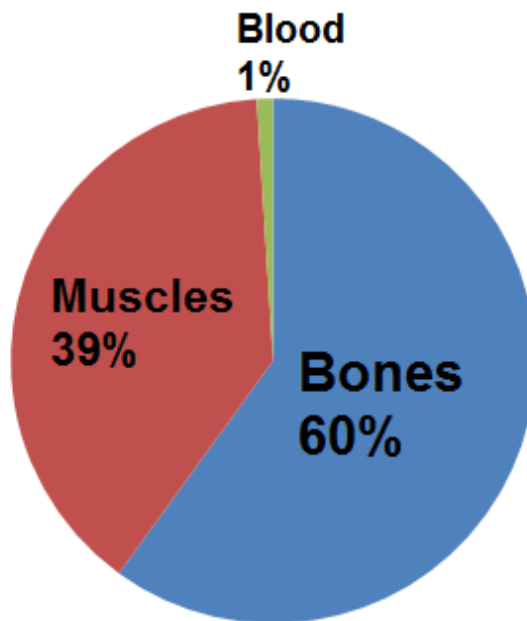
In the literature, there are not too many details about the importance of magnesium and potassium for pancreatic health. Potassium is the third and magnesium is the fourth abundant mineral in the body, and they are both the most abundant intracellular cations.

Yet, the metabolism of each of these major intracellular electrolytes depends on each other, even though they have some different actions in the body and in particular, pancreatic health.

Magnesium

The total body magnesium of an adult male is approximately 1 mol (24 g). Approximately 60% is distributed in bone, 39% in muscle and soft tissues and less than 1% in blood. In the blood, 55% of the magnesium is free (ionized) and physiologically active, 30% is bound to proteins (primarily albumin) and 15% is complexed to anions.

Distribution of Magnesium



The plasma magnesium concentration is kept within narrow limits, so the body has an extremely complicated mechanism to keep it stable while taking the magnesium, if needed, from other tissues. In contrast with other ions, the bone magnesium (the principal reservoir of magnesium) does not readily exchange with circulating magnesium in the extracellular fluid space. This inability to mobilize magnesium, means that, in states of negative magnesium balance, initial losses come from the extracellular space. Equilibrium with bone storage does not begin for several weeks.

If only 1% of magnesium is collected into the blood, the measurement of this mineral in the blood does not give the real picture about its amount in the body.

The quantity of magnesium in the body depends on intake, digestion, and elimination of this vital mineral.

Over twothirds of all Americans do not consume the recommended daily intake of magnesium. Even more alarming is data from a study showing that 19% of Americans do not consume even one-half of the government's recommended daily intakes of magnesium.[253]

Many problems with digestion may result in hypomagnesaemia. Reduced absorption due to chronic diarrhea, malabsorption, steatorrhoea, inflammatory bowel disease, vomiting, short bowel syndrome, chronic pancreatitis, dysbiosis, parenteral nutrition, protein calorie malnutrition, intestinal bypass for obesity and bowel resection are some of the causes of hypomagnesaemia.

Replacing deficiencies of magnesium, potassium, and bicarbonate is a cornerstone of healing almost all gastrointestinal diseases

The largest part of magnesium is eliminated from the body through the kidneys and colon. Therefore, extensive stimulation of urination and diarrhea may lead to extra magnesium loss.

Chronic metabolic acidosis increases magnesium excretion and decreases serum magnesium concentration. [254] The prevailing low intake of magnesium with food and the epidemic of chronic metabolic acidosis can be some reasons for chronic depletion of this mineral.

Some medications affect magnesium metabolism, for example, the widespread treatment of chronic digestive disorders by reducing the amount of acid in the stomach. The FDA notified healthcare professionals that the prescriptions of the proton pump inhibitor (PPI) drugs may cause low serum magnesium levels (hypomagnesemia).

<http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm245275.htm>

Magnesium is necessary for the proper functioning of various metabolic pathways and ion channels as an enzyme cofactor, in electrolyte balance and in the maintenance of the properties of different cell membranes. So, magnesium deficiency is being considered as an important mediator in various medical conditions.

Magnesium serves as a significant cofactor for most cellular, metabolic and energy-related enzymatic reactions. It is involved as a cofactor of enzymes in more than 300 biochemical reactions in the body including oxidative phosphorylation, glycolysis, and the proper functioning of the Na-K-ATPase pump. Therefore, magnesium inside the cells is a key factor for proper functioning of the whole human organism.

Magnesium Role in the Body

Magnesium deficiency seems to be an epidemic in the Western civilization, and it is well connected with other pandemic maladies such as metabolic acidosis, exocrine pancreatic deficiency, and dysbiosis.

In chronic metabolic acidosis, the organism borrows alkaline minerals such as calcium and magnesium from bones, magnesium and potassium from cells (mostly muscle cells), and transports them to the blood to neutralize the acid radicals. Then, as salts, these minerals are excreted via the kidneys. Some calcium salts can be deposited in the arteries or the internal organs (calcinosis). All these activities deplete the body mineral capacity and predispose it to more acidity.

Exhaustion of these mechanisms causes decreasing concentrations of these electrolytes in the blood, nervous system, inner glands, etc, that manifest by clinical symptoms. Symptoms of low magnesium generally fall into the categories of cardiac, metabolic, gastrointestinal, and neurologic effects.

Some of these symptoms or disorders include irregular heartbeats, chest pain, high blood pressure, depression, anxiety, memory loss, fatigue, tremors, muscular cramps, chronic pain, migraine headaches and many more. Common gastrointestinal symptoms include anorexia, nausea, bloating, sluggish colon, constipation, etc.

Most ATP-dependent enzyme reactions depend upon magnesium. ATP is essential for glucose usage, fat, protein, nucleic acid and coenzyme synthesis, methyl group transfer, muscle contraction, and many other reactions. Therefore, low serum magnesium may lead to many metabolic disorders. Deficiency of magnesium (possibly in connection with metabolic acidosis) results in insulin resistance. That in turn, increases the level of insulin in the blood, resulting in hypertension, diabetes, and hyperlipidemia.

Insulin resistance is referred to as Metabolic Syndrome and it may be a common link to atherosclerosis and increased cardiovascular risk.

The history of magnesium usage in some digestive disorders such as heartburn, gas, nausea, vomiting, ulcers, spasms, constipation, food poisoning, gallbladder stones, etc., shows the strong evidence linking magnesium deficiency with altered physiologic states of the gastrointestinal tract.

Chronic metabolic acidosis damages the proper work of the alkaline glands – the pancreas and liver (bile). Acidity kills the pancreas. Magnesium is a component of the pancreatic juice. Magnesium concentration in pancreatic juice depends upon the magnesium concentration in the blood.

Magnesium is involved in smooth muscle contraction and peristaltic movements hence, the deficiency of this mineral may cause gastroparesis, Sphincter of Oddi dysfunction, biliary dyskinesia, constipation, etc.

Intestinal dysbiosis decreases absorption of magnesium and potassium, as well. Magnesium deficiency may play a role in the development of neurological disorders in various functional GI diseases. There is evidence that magnesium supplementation may alleviate fibromyalgia, depression, migraine headaches and chronic pains, which often accompany functional dyspepsia, IBS, etc.

Magnesium is an anti-stress mineral

Researchers from the Department of Surgery, Walter Reed Army Medical Center, Washington, DC, USA Scanian BJ *et al.* (2007) demonstrated “magnesium deficiency induced a subclinical inflammation in the small intestine in the absence of mucosal injury, but with significant functional changes in local and remote organs and increased sensitivity to oxidative stress”. [255]

The role of magnesium in inflammation was the subject study of researchers King D. *et al.* from the Medical University of South Carolina (2005). [253] They concluded “Most Americans consume magnesium at levels below the RDA. Individuals with intakes below the RDA are more likely to have elevated C-reactive protein (CRP), which may contribute to cardiovascular disease risk”. CRP is a known marker of chronic inflammation; thus, it can be implicated to chronic pancreatitis, as well.

Low magnesium is a well-known fact in alcohol abusers. The American medical doctors Hersh T and Siddiqui DA in the article, *Magnesium and the pancreas*, published in 1973, stated that magnesium deficiency occurs in patients with diarrhea and pancreatic insufficiency. Because chronic alcoholics tend to be magnesium depleted, pancreatic disease in these cases will aggravate the deficiency.[256]

Magnesium and calcium concentrations are increased in secretin-stimulated pancreatic juice, in patients with chronic pancreatitis. The significance of these findings is not known, but this may have some relevance in deposits of pancreatic calculi and recurrence of attacks of pancreatitis. [256] Magnesium deficiency and chronic pancreatitis often occur in alcohol addicts, which may cause a vicious circle:

Alcohol abuse => magnesium deficiency => chronic pancreatitis => indigestion => malabsorption syndrome => magnesium deficiency

Low magnesium levels have been reported in cases of steatorrhea, an illness marked by chronic pancreatitis. English researchers from the Imperial College School of Medicine in London, UK, Papazachariou IM *et al.* (2000) wrote “Magnesium deficiency is a common clinical condition that may exist despite a normal serum magnesium concentration. Patients with chronic pancreatitis could develop magnesium deficiency due to malabsorption,

diabetes mellitus or chronic alcoholism”. In their study, the magnesium deficiency percentage was greater in patients with chronic pancreatitis than controls. The researchers concluded that the routine evaluation of magnesium status could allow for appropriate supplementation and conceivably symptomatic improvement in patients with severe chronic pancreatitis”.[257]

The authors consider that different severities of magnesium deficiency occur in all three stages of exocrine pancreatic deficiency, so, appropriate supplementation is required. There are two overriding issues for discussion: safety and bioavailability.

Magnesium Safety

Despite the epidemic prevalence of magnesium deficiency, specialists and medical papers focus more on hypermagnesemia and anecdotal cases of magnesium toxicity commonly in individuals that overuse magnesium laxatives or are in the final stage of kidney failure.

Author Peter Melamed worked 15 years in the intensive care department that also served as a center of poison control for a large city (population: 1 million citizens). He has never seen serious or fatal conditions from magnesium poisoning. During that time, doctors widely used intravenous injections of magnesium.

Nevertheless, there was a “golden rule” at that time: *prescribe magnesium only to patients with 800 ml or more daily urine output* to avoid problems. The daily urinary excretion of magnesium is usually reduced in patients with advanced renal failure.

Appropriate Magnesium Forms

Since the magnitude of the deficit is not easy to estimate, the magnesium's replacement often is empirical. Magnesium deficiency is managed by replacement with magnesium salts. In situations with digestive disorders, different kinds of magnesium salts have been historically used. Oral magnesium supplementation is an effective form of replacement therapy, but not all formulations are equal because the amounts of elemental magnesium in a compound and the absorption and bioavailability of preparations vary.

Firoz M and Graber M (2001) conducted a study to assess the bioavailability of some U.S. commercial magnesium preparations. Results indicated relatively poor bioavailability of magnesium oxide (fractional absorption 4%), but, significantly higher and similar bioavailability of magnesium chloride, magnesium lactate and magnesium aspartate.[258]

Pharmacologists from Hungary, *Gedeon Richter Company* in the 1960's found that salts of magnesium and organic acids of the Krebs cycle easily penetrated the cellular membranes. The pharmacologists created the medical drug "panangin". Panangin decreased the cardiac arrhythmias and deaths of the patients with heart attacks. Since then, the drug has been successfully used in Europe. To emphasize the activity and importance of this medication, here is an example of its use. Drs. Michael R. Barratt and Sam L. Pool of the NASA/Johnson Space Center in their book *Principles of Clinical Medicine for Space Flight* (2008) recommended including panangin in the space "Onboard Pharmacy Kit".[270]

Magnesium/potassium aspartate as citrate, fumarate, malate, succinate and alpha ketoglutarate are salts of the organic acids that are included in the Krebs cycle. These magnesium/potassium salts are natural parts of the

mechanism of the aerobic cellular respiration; the series of metabolic processes, by which living cells produce energy through oxidation.

These magnesium/potassium salts have appropriate bioavailability and, what is most beneficial; they are transporters of magnesium and potassium into the cells.

Since magnesium and potassium are intracellular minerals, their transfer into the cells assesses the effectiveness of their oral supplementation. The authors use these magnesium/potassium salts as the *Biotherapy Cellular Magnesium – Potassium* mineral supplement.

The more magnesium and potassium there are inside the cells, the healthier the cells are

Many studies confirm the strong correlation between both hypokalemia and hypomagnesemia in approximately 50-60% of people. Both experimental and clinical observations emphasize the importance of simultaneously correcting deficiencies of both potassium and magnesium.

Double magnesium and potassium cellular deficiency are difficult to correct because the correction of a potassium deficit may be complicated to achieve, unless the magnesium deficit is also corrected. Concomitant magnesium deficiency aggravates hypokalemia and renders it refractory to treatment by potassium. Herein is reviewed literature suggesting that magnesium deficiency exacerbates potassium wasting by increasing distal potassium secretion.[337]

Patients with hypokalemia should also be supplied with magnesium

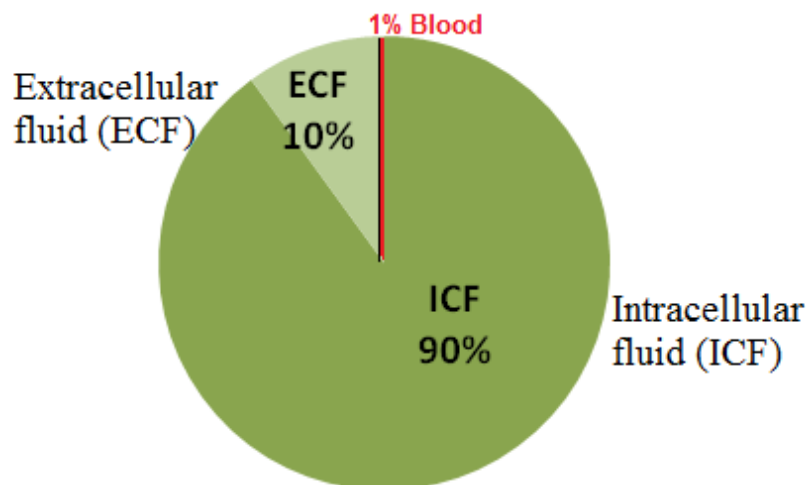
Practically, it is wise to supplement both magnesium and potassium together.

Potassium

For individuals with a medical background

Potassium is the body's main mineral. The total body potassium (K^+) is stored inside the cells. In contrast to Na^+ (sodium), which is collected primarily into the extracellular fluid, K^+ is basically an intracellular positive ion (cation). About 90% of total body potassium is placed in the intracellular fluid (ICF), the majority in muscle tissue. Although the extracellular fluid (ECF) contains about 10% of total body potassium, less than 1% is located in the plasma.

Distribution of Potassium



90% of potassium is excreted through the kidneys, the remainder being excreted in the stool.

The differences in concentration between potassium and sodium across cell membranes generate an electrochemical gradient known as the membrane potential. This potential is kept by ion pumps in the cell membrane, especially the sodium and potassium-ATP-ase pumps. These pumps use energy from ATP to pump sodium out of the cell in exchange for potassium. The more intracellular potassium there is the better cellular metabolism. Contrary, low potassium inside the cells causes, at first, dysfunction, and then the death of cells.

The function of potassium in the body is essential for life and proper functioning of the human organism. Many enzymes involve the presence of potassium as a cofactor for their activities. Potassium takes part in carbohydrate metabolism and protein synthesis. It is required to maintain proper fluid balance in the blood, acid-alkaline balance in the body and transport nutrients into and out of every cell. Potassium is also required for insulin secretion by the pancreas and cell sensitivity to insulin. Proper potassium levels are required for muscle contraction and relaxation of both skeletal and cardiac muscle and nerve impulse transmission.

Hypokalemia is among the most frequently encountered fluid and electrolyte abnormalities in clinical medicine.[337]

There are two main reasons for potassium deficiency:

1. **Deficient intake:** eating disorders, starvation, "tea-and-toast" diet of elderly individuals, alcoholism, post-bariatric surgery, etc
2. **Increased excretion:** using diuretics, other medications, diarrhea, vomiting, diabetes, high urination, etc

The level of potassium in the plasma is constant. As a result, serious level changes may lead to severe health problems or even death. Low serum

potassium concentration is referred to as hypokalemia. Potassium is primarily an intracellular cation; therefore, serum potassium levels can be a poor marker of total body amounts. Because potassium moves easily across cell membranes, serum potassium levels can reveal movement of potassium between intracellular and extracellular fluid compartments, as well as the entire body potassium homeostasis.

Hypokalemia may appear due to the shift in potassium from extracellular to intracellular space. This shift requires proper amounts of magnesium, insulin + glucose, normal alkaline conditions, etc.[328]

Symptoms of potassium deficiency are nonspecific and are basically related to muscular, cardiac and gastrointestinal functions. The most common complaints are muscular weakness and fatigue. Other symptoms such as worsening diabetes with polyuria, tachycardia, palpitations, hypotension, muscle cramps, pain and flaccid paralysis may occur.[328]

Even mild potassium deficiency can cause gastrointestinal symptoms such as poor appetite, constipation, gas, bloating, abdominal cramps, nausea, vomiting, etc. Individuals with chronic pancreatitis, alcohol abuse, and metabolic acidosis typically have a lack of potassium, which aggravate the clinical picture.

Often, severe hypokalemia is associated with significant magnesium losses and cannot be corrected unless the hypomagnesemia is corrected.[337]

A potassium intake enough to support life can generally be achieved by eating a variety of foods, particularly plant foods. A typical American diet includes amounts of sodium chloride far above evolutionary norms and potassium far below those norms.

The inverted proportion of potassium to sodium in the diet compared with pre-agricultural diets affects cardiovascular function adversely and contributes to hypertension and stroke.[259] The current diets do not include required amounts of potassium, which lead to systematic depleting of this vital mineral. Epidemic proportions of chronic metabolic acidosis cause a shift in potassium from cells to the blood and elimination of it through the kidneys, therefore, resulting in chronic potassium shortage. The human organism needs a steady supply of potassium to avoid a deficiency. Required potassium intake is approximately 1 mEq/kg/day - 2,340 – 3,900 mg.

Magnesium/potassium nutritional supplementation is extremely important for all digestive (pancreatic) disorders. The authors normally use the *Biotherapy Cellular Magnesium – Potassium* mineral supplement.

c. Other Nutritional Problems in Chronic Pancreatitis

One problem is the impaired secretion of essential pancreatic enzymes that break down nutrients so they can be absorbed. Another problem is a deficiency of **folate (folic acid)**, a water-soluble vitamin found in raw, green, leafy vegetables and in organ meats. Folate intake tends to be low in alcoholics. The severe folate deficiency alters the structure and function of the cells that line the intestine and also shortens the intestinal villi. These changes, in turn, impair the absorption of other nutrients, including glucose, sodium, water, and folate itself.

Folate shortage typically combines with **vitamin B-12** deficiency; therefore, nutritional supplementation of both of these nutrients is necessary. Supplementary folate and B-12 should be provided without restriction, as it

is quite safe. Nevertheless, digestibility of these vital substances in individuals with chronic pancreatitis through the GI tract is remarkably low. [201] There are two options: injection or sublingual forms. *Biotherapy Sublingual B 12* contains cyancobalamin (special form of vitamin B-12) and folic acid, which easily absorb through the oral mucous membranes.

Oxygen radicals play a fundamental role in the development of inflammation in a variety of conditions including chronic pancreatitis. The involvement of free radicals in the pathogenesis of pancreatitis has been shown in both animal and human studies. Attention of researchers has focused on using **antioxidant therapy** in cases of acute and chronic pancreatitis for the last decades. Glutamine, selenium, β -carotene, vitamin C, vitamin E, methionine, curcumin, S-adenosyl methionine (SAME) and other antioxidants reduced pain and hospitalization and showed an elevation in serum antioxidant biomarkers.[272, 273, 332] The authors use *Selenium ETE*, *Biotherapy Ester-C*, and *L- Glutamine* as antioxidants.

Anything that hinders the absorption of fat also prevents the absorption of **fat-soluble vitamins (A, D, E, and K)**. Mechanisms of fat malabsorption during chronic malabsorption include exocrine pancreatic deficiency, intestinal malabsorption and bile salt deficiency.

According to Dujsikova H *et al.* (2008), “The occurrence of relatively high percentages of metabolic osteopathies in patients with chronic pancreatitis may correlate, namely in advanced stages of the disease, with the malabsorption of vitamin D”. These Czech researchers also considered that, in the initial forms of pancreatitis, it is not possible to exclude progression of osteopathy due to changes of the intestinal flora, with disturbance of vitamin D absorption to the intestinal mucosa.[275]

Researchers from the University of Manchester, Manchester, UK, Selby P *et al.* (2009) published the article *Determinants of vitamin D deficiency in chronic pancreatitis*. They demonstrated that 25-hydroxy-vitamin-D3

(25OHD) levels in their patients with chronic pancreatitis were < 30 ng/ml in 94.6% patients.[274]

The major source of vitamin D for the individual with chronic pancreatitis is sunlight or nutritional supplementation. It is the opinion of the authors, that the most crucial factor is that the blood level of the vitamin D is supposed to be 50 ng/mL or more of 25(OH) D, not the doses and brand. For this purpose, the authors use *Sunshine D Plus*.

A number of studies showed inverse relationships between sunlight exposure and pancreatic cancer and connected it with high levels of **vitamin D**. This vitamin has anti-proliferative activity in a variety of normal and cancer cells.
<http://www.medpagetoday.com/HematologyOncology/OtherCancers/33345>

Additionally, vitamin D has contained anti-tumor effects in several animal models.

Besides many natural inhibitors of the inflammation, it makes sense to focus on **MSM**, **quercetin** and **bromelaine**. More information about MSM (Methylsulfonylmethane) may be found in the *Chapter 41-A Non-Drug Approach for Abdominal Pain*. [237]

Bioflavonoids once known as “Vitamin P” are the group of plant pigments that can be useful in the healing of various health conditions. As food supplements for healing purposes, bioflavonoids have been widely used over the past 30 years. Commonly used bioflavonoids are:

- Proanthocyanidins from grape seeds and bark from the maritime pine
- Citrus bioflavonoids
- Green Tea Polyphenols
- Quercetin

The flavonoid **quercetin** has been the subject of dozens of scientific reports. It is a powerful antioxidant for protection against oxidative and free radical damage and has anti-inflammatory activity due to inhibition of initial processes of inflammation. For anti-inflammatory effects, combining quercetin with bromelain (pineapple enzyme) may provide additional benefits by enhancing the absorption of quercetin.

Bromelain certainly can be useful as a digestive proteolytic enzyme that is active both in the acidic environment of the stomach, as well as in the alkaline environment of the small intestines. As an anti-inflammatory agent, bromelain has the ability to reduce the pain and edema associated with inflammation. *Biotherapy Quercetin Bromelain Complex* can be beneficial for any inflammation in the GI tract, including chronic pancreatitis.

Treatment of chronic pancreatitis is extremely complicated. Micronutrient therapy with antioxidants, formulated from observations at Manchester over a 15-year period from 1983-1998, stimulated researchers all over the globe to investigate non-knife, nondrug approaches for chronic pancreatitis. By using various antioxidants such as selenium with vitamins A, C and E, and donors of the methyl radicals such as methionine, remission of chronic pancreatitis can be achieved. Researchers from the United Kingdom, Braganza JM and Dormandy TL, in their article *Micronutrient Therapy for Chronic Pancreatitis: Rationale and Impact* (2010) stressed that the underlying reason in all cases of pancreatitis was oxidative stress with methyl-thiol depletion in the pancreas. “The restoration of methyl and thiol groups needed for apical exocytosis in the acinar cell is the best explanation for the fall in attack frequency on micronutrient therapy. Lowered delivery of proinflammatory substances via basolateral pathways and increased micronutrient levels in tissues rationalize alleviation of background pain”. [332]

The authors believe that nutritional supplementation with antioxidants, alkalizers, natural anti-inflammatory agents, donors of the methyl and thiol radicals, precursors of the neurotransmitters and hormones, etc, is a very perspective way for treating chronic pancreatitis.

Interesting facts at a glance:

In the digestive (pancreatic) disorders, especially in the case of the chronic pancreatitis, poor nutrition is aggravated by bad digestion and poor assimilation of the vital nutrients from food

Nutritional supplementation has to replace all of the various deficiencies of vital substances in the individual with pancreatic deficiency

Numerous vitamins, minerals, enzymes, probiotics, essential fatty acids and amino acids in proper amounts have curative effects on pancreatic deficiency

The common factor that triggers nutritional deficiencies is the lack of natural digestive enzymes in modern food to complete digestion

Modern agriculture and food technology reduce the amount of vitamins and trace elements in the food and, on the other hand, bring in many synthetic chemicals that may contribute to nutritional deficiency

Dieting, taking some medications, sport and age related nutritional deficiencies are also highly common

Metabolic acidosis wrecks havoc on the digestive system and assimilation of essential nutrients

The epidemic of dysbiosis makes a burden on the digestive system and causes deficiencies of essential nutrients

In the late stage of the chronic pancreatitis, incomplete breakdown of dietary lipids, protein and carbohydrate occurs (maldigestion), preventing efficient absorption of nutrients from the intestine (malabsorption)

Poor diet and malnutrition related to alcohol abuse, are significant factors associated with pancreatic damage in alcoholics

Malnutrition <==> Chronic Pancreatitis lead to “starvation around abundance of food”

Clinical investigation and scientific studies show that individuals with pancreatic (digestive) disorders can have one or more deficiencies of essential nutrients, including:

- Minerals such as Magnesium and Potassium and trace elements such as Zinc, Chromium, Iodine, Selenium, Lithium, etc**
- Fat-soluble vitamins A, D, E and K**
- Water-soluble vitamins such as C, B-1, B-2, B-6, B-12, folate, etc**
- Essential fatty acids**
- Essential amino acids**

Over twothirds of all Americans do not consume the recommended daily intake of magnesium

Many problems with digestion may result in low amounts of magnesium in the body

Replacing deficiencies of magnesium, potassium, and bicarbonate is a cornerstone of healing almost all gastrointestinal diseases

A “golden rule”: *give magnesium and potassium only to patients with 800 ml or more daily urine output to avoid problems*

The more magnesium and potassium are inside the cells, the healthier these cells are

Often, severe hypokalemia is associated with significant magnesium losses and cannot be corrected unless the hypomagnesemia is corrected

Folate (folic acid), vitamin B-12, antioxidants, water-soluble and fat-soluble vitamins, especially, vitamin D, MSM, quercetin, bromelaine and other nutrients, are extremely valuable components of any healing programs of the digestive disorders, particularly chronic pancreatitis

Chapter 44-Enzymes for Pancreatic (Digestive) Disorders

For individuals lacking a medical background

In all digestive disorders and stages of pancreatic deficiency, there are many symptoms that strongly correlate to small amounts of pancreatic digestive enzymes. Enzymes are living proteins, which help the body to split the food we eat into very tiny particles. These particles can travel through the gut wall into the blood and lymph system so, our organism can use them for energy, building new tissue and all processes in the body that we usually call “life” or “living processes.”

The pancreas is the main organ that manufactures these vital substances. If the pancreas becomes sick and the amount of pancreatic digestive enzymes is diminished, indigestion occurs. Chronic diarrhea, gas, bloating, and pain are the symptoms of poor pancreatic function and thus, bad digestion. In the *pancreatic failure* stage, because the pancreas has lost 90% of its function, all these symptoms become worsen.

Due to small amounts of lipase (the enzyme that digest fat), stool has excess oil (steatorrhea). The symptoms of steatorrhea include pale, yellow, foul-smelling, greasy, bulky, and difficult to flush down stools that stick to the side of the toilet bowl or float in the toilet bowl after bowel movements.

The catastrophic decline in the pancreatic digestive enzymes leads to indigestion. As a result, the body cannot assimilate essential nutrients such as vitamins, minerals, trace elements, essential amino acids and fatty acids. It is known that these substances are parts of digestive enzymes. This, in turn, can deteriorate the pancreatic function even more. From this book, you

already know that the body can be supplied with minerals, trace elements, and bicarbonate by drinking Karlovy Vary Healing Mineral Water. This helps to improve pancreatic function, thus, the whole digestion.

Due to low amounts of pancreatic digestive enzymes, the *pancreatic failure* stage requires pancreatic enzyme replacement therapy (PERT) by taking them orally. Drinking Karlovy Vary Healing Mineral Water during the time of PERT can also promote the actions of pancreatic enzymes by making the gut pH slightly alkaline. Pancreatic enzymes can only work on slightly alkaline pH.

There are different pancreatic enzyme medical preparations to take orally.

Alternative medicine practitioners also use enzymes as nutritional supplementation from various sources, such as from:

1. The animals' desiccated pancreas (pancreatin)
2. Plants (bromelain, papain)
3. Microorganisms

Some of these enzymes are referred to as systemic or metabolic enzymes so they can both improve digestion and decrease inflammation.

Enzymes are the essential components of healing almost all pancreatic disorders

There are a large number and brands of enzymes to take as nutritional supplements. They have random sources, qualities, potencies and, thus, digestibility. Some supplements have only 5-15% digestibility. A variety of health problems requires taking various enzymes.

Individuals with Candida-yeast overgrowth after using enzymes may experience die-off reactions, sometimes with severe malaise, dizziness, nausea, headaches, “fog in the brain,” depression, anxiety, gas, bloating, flatulence, diarrhea, constipation, body aches, sore throat, sweating, chills, skin breakouts or other symptoms.

This occurs when microorganisms in the blood release a high number of toxins as they die. So, taking enzymes requires whole body cleansing to reduce the amount of toxicity on the cellular and systems levels. Drinking the healing mineral water prepared from genuine Karlovy Vary spring salt can decrease the die-off reactions and produce a slightly alkaline environment for improved digestibility of enzymes.

Enzymes are not for everyone. It should be a “golden rule” that taking enzymes needs guidance from a knowledgeable, licensed health care provider.

Enzymes for Pancreatic Disorders

For individuals with a medical background

Enzymes are living proteins, which act as catalysts, to speed up all vital biochemical reactions in the body. Without enzymes, most bodily processes could not take place.

Using enzymes in medicine has a 100-year history and they are currently widely used in Germany, Central Europe, Japan, and the rest of the world.

Scottish embryologist John Beard was the first doctor that treated cancer patients with living enzymes extracted from the pancreas. His book “*The Enzyme Treatment of Cancer*” was published in 1911.

Enzyme therapy is based on the work of American doctor Edward Howell in the 1920's and 1930's. Howell proposed that natural food enzymes work to predigest food in the gastrointestinal tract. Howell theorized that if the body used less of its own enzymes for digestion, then it could save those enzymes for maintaining proper metabolism. Thus, he advocated the consumption of large amounts of natural plant enzymes.[251]

The father of modern enzyme therapy is considered Dr. Max Wolf. Wolf researched enzymes and hormones at Columbia University from the 1930's through the 1960's and determined that enzyme production reduced in humans after age 27.

While humans have historically supplemented their enzyme levels by consuming fresh and raw foods, current preservation, and preparation techniques regularly destroy the enzymes these foods contain.

Combined with the age related decline of pancreatic function, these conditions create an enzyme deficiency that causes the human being and normal body's functions to break down.

Max Wolf, M.D. noted the beneficial effects from enzymes in treating cancer as well as on general health and longevity. Max Wolf and Helene Benitez developed an enzyme combination for the suppressing of inflammation and degenerative diseases. The name “**Wolf-Benitez-Enzyme** combinations” is shortened to “Wobenzym” – the enzymatic product that is widely used in Europe, particularly in Germany.

The health and medical usage of orally ingested enzymes are relatively new to the U.S. To avoid any discussion in this matter, the authors focus on the possible benefits of using orally ingested enzymes for pancreatic health and speculate a few significant things.

The pancreas is a main organ in the body that produces enzymes. The pancreas, comprising only 0.1% of total body weight, has 13 times the protein-producing capacity of the liver and the reticuloendothelial system combined, which make up 4% of total body weight.[11]

The enzymes conditionally are divided into digestive and metabolic (systemic) enzymes. There is a functional relation between both digestive and metabolic (systemic) enzymes. A cascade of enzymatic reactions takes place in the human body, and some enzymes are trigger actions of other enzymes (“enzymes for enzymes”). In the age of 27-35 years enzymes activities are declined, the production of pancreatic digestive enzymes declines, as well.

There is a close relation between the amount of natural digestive enzymes accumulated in food and the amount of digestive enzymes produced by the pancreas. The diets of modern men, especially in the last 50 years, are deprived of natural digestive enzymes. Therefore, the pancreas overworks and structurally changes, leading to the enlargement and premature exhaustion of this vital organ.

Natural digestive enzymes not only help to digest the food but can also be assimilated by the human organism. The body seeks to preserve its digestive enzymes by reabsorbing them. Pancreatic digestive enzymes can be reabsorbed from the intestines into the blood and may either carry metabolic function or accumulate in the pancreas and release for digestion. This is called enteropancreatic circulation. [189] Some enzymes from different sources that are taken for healing purposes also can be digested and take both metabolic and digestive properties.

Metabolic and digestive enzymes hold some significant actions that are extremely important for overall health and pancreatic disorders.[67, 71, 73, 74, 100, 177, 224, 225, 242, 249, 250, 251, 271]

The main action of metabolic enzymes is to control excessive inflammation. Inflammation is a critical, extremely complicated process that continually occurs to protect and repair any damage of the human being and recovery from illnesses. At first, inflammation helps to fight with any mechanical, physical or biological pathogen and restrict the areas of their damage. Secondly, inflammation helps to clear the damaged areas from infections, contamination, toxins, dead cells, etc. The third action of inflammation is repairing and healing the damages.

All three inflammation processes occur in the pancreas after various damages

All inflammation reactions depend upon the presence of metabolic enzymes; so, the intensive, acute or long, chronic inflammations can cause a shortage of the required enzymes.

Chronic pancreatitis and low pancreatic function require more metabolic enzymes. On the other hand, due to poor digestion, the body does not have the building materials for manufacturing such enzymes, so, the body's natural defense system is deteriorated.

The solutions are to provide the body with enzymes, from either food or supplements and to improve the health of the pancreas, as well. This has a normalizing effect on chronic inflammation naturally.

It is also beneficial because severe inflammation defense reaction can transform to its opposite reaction and destroy the pancreas. This means that uncontrolled chronic inflammation due to fibrosis (scarring), eventually may

lead to organ destruction and malfunction, as can be seen in the case of chronic pancreatitis.

Pain, redness, edema, heat and poor organ function are 5 classic symptoms of inflammation. During chronic pancreatitis, if all these symptoms occur too often or for too long, the pancreas suffers from structural damage as can be seen in the *pancreatic failure* stage.

Taking enzymes as a food or supplement can improve exocrine pancreatic function. This, in turn, may normalize inflammation and the immune response in chronic pancreatitis. These actions of the enzymes can include:

◁> **Blood Cleansing:** Blood is not only the “river of life” because of transporting oxygen and nutrients to the human cells; it is also the “river of waste” because it removes toxins, chemicals, waste materials, and dead cells from the tissues. When the human cells are destroyed by an injury, pathogens, or die, they lose the markers that indicate they are part of our own body. Enzymes help to eliminate these cells and other waste materials from the body.

◁> **Fibrinolysis** is an equilibrium process between blood coagulation and blood liquefaction. To understand that, blood has to maintain fluidity in order to be able to nourish all the cells and transport out the metabolic wastes. If the blood maintains constant fluidity, any blood vessel damages would lead to bleeding and death. Therefore, our blood has a great capability to clot; it becomes thicker and finally coagulates. The material that our body produces for these purposes is known as fibrin.

Chronic pancreatitis causes deposits of fibrin in the pancreatic tissue that lead to structural changes, scarring and restriction in microcirculation and flow of pancreatic juice. The breakdown of fibrin is known as fibrinolysis. This process is controlled by enzymes. Enzymes remove excess of fibrin, the clotting material that prolongs inflammation. Enzymes improve

microcirculation by eating the excess of the fibrin that causes clotting of the blood.

<> **Reducing Inflammation:** All inflammations cause the immune system to create Circulating Immune Complexes (CIC) to regulate this process. Too much CIC increase symptoms of inflammation and cause more harm than good. Enzymes normalize the amount of these CIC, thus, reduce the pain, edema, redness, heat, and poor organ function – the main symptoms of inflammation.

<> **Balancing of the Immune System:** The immune response is our defense system mechanism and it is involved in the control of inflammation, as well. This response may be normal to fight a pathogen. The immune response can be low during conditions such as AIDS, other viral infections, after chemotherapy and taking immune suppressants. The immune response may be too high, as it occurs in allergic reactions. In the paradox immune response that can be seen in autoimmune diseases, the immune system attacks the body's own tissues. Enzymes help to manage and normalize the immune response, thus, reduce symptoms of inflammation and allergies.

Taking enzymes is beneficial in all 3 stages of exocrine pancreatic deficiency

In the *acidic pancreas and bile* functional stage, the focus needs to be on normalizing the pancreatic function mainly by a healthy diet full of the natural digestive enzymes and drinking the healing mineral water prepared from genuine Karlovy Vary spring salt. Taking the enzyme supplements for a short period of time (such as 3-4 weeks) may reduce symptoms of indigestion, give the pancreas a functional break and decrease the population of yeast and parasites.

In the *pancreatic deficiency* stage with continuous, chronic inflammation and progressive decreasing of the exocrine pancreatic function, the role of enzymes in the healing program is raised. It is the opinion of the authors that this stage requires 1.5 - 2 months of taking enzymes combined with drinking the healing mineral water prepared from genuine Karlovy Vary spring salt.

We do not believe in the hypothesis that enzymes taken on an empty stomach have metabolic actions and enzymes taken with food have digestive effects. The proper combination of enzymes, amount of enzymes per day, quality of product are more powerful.

It is known that chymotrypsin can trigger the actions of other enzymes, such as the example of “enzymes for enzymes.” Therefore, chymotrypsin has to be a part of the enzymatic blends for pancreatic health. Bioavailability of orally taking enzymes varies. Enzymes are largely inactivated by gastric acidity, with less than 10% of the lipolytic and 20% of the proteolytic activity reaching the duodenum. Enteric coatings of enzyme preparations may enhance the effectiveness of pancreatic enzyme products.

Systemic enzyme therapy is generally tolerated well with no adverse effects having been observed even during long-term administration. Taking enzymatic blends in the *pancreatic deficiency* stage needs some precautions. Commonly, people who receive systemic enzymes might experience temporary symptoms such as headaches, fatigue, upset stomach, diarrhea, etc. Possible reasons for these symptoms are blood-cleansing effects in patients with high levels of inner toxicity and die-off reactions – “Herxheimer reaction”, especially in individuals with Candida-yeast overgrowth and SIBO. Taking enzymes is not recommended for stomach and duodenum ulcers and in patients with hemophilia or on prescription blood thinners. The enzymes might possibly cause the blood to thin.

In the *pancreatic failure* stage, enzyme therapy has been widely used all over the world for the past few decades. Criteria effectiveness of this treatment is alleviation of steatorrhea and malabsorption syndrome. Amount and doses of enzymatic blends can be raised every few days until the desired therapeutic response develops.

The focus has to center on alleviation of the symptoms, but not on the overdose of systemic enzymes

Dr. Nicholas Gonzalez, affiliated with the Cornell University Medical School in New York, has shown that proteolytic enzymes are effective in the clinical management of pancreatic cancer. In recognition of his work, Dr. Gonzalez was awarded a research grant by the National Cancer Institute to carry out a clinical trial.[73]

To summarize, in the case of chronic pancreatitis, enzyme therapy is designed not only for food digestion, but also for an anti-inflammation purpose.

Digestive Enzymes:

- Promote digestion of proteins, lipids and carbohydrates
- Aid in gaining body mass in malabsorption syndrome
- Alleviate steatorrhea and chronic diarrhea
- Decrease deficiencies of essential nutrients
- Increase stamina

Metabolic (Systemic) Enzymes:

- Reduce inflammation
- Digest scar tissue (fibrosis)
- Prevent swelling and fluid retention
- Modulate the immune system response
- Cleanse the blood
- Remove and filter viruses
- Relieve pain

Interesting facts at a glance:

Metabolic and digestive enzymes hold some significant actions that are extremely important for health and pancreatic disorders

In all digestive disorders, there are many symptoms that correlate with low amounts of pancreatic digestive enzymes

Enzymes are living proteins

A decrease in pancreatic digestive enzymes leads to indigestion. On the other hand, indigestion can seriously deteriorate pancreatic function

Enzymes can be produced from the desiccated animals' pancreas (pancreatin), plants (bromelain, papain) or microorganisms

Some enzymes are referred to as systemic or metabolic enzymes so they can both improve digestion and decrease inflammation

Enzymes are essential components of healing almost all pancreatic disorders

Drinking the healing mineral water prepared from genuine Karlovy Vary spring salt can reduce the die-off reactions and make a slightly alkaline environment for improved digestibility of enzymes

The pancreas is a main organ that produces enzymes

Natural digestive enzymes not only help to digest the food, but can also be assimilated by the human organism

Pancreatic digestive enzymes can be reabsorbed from the intestines into the blood. This is called enteropancreatic circulation

During chronic pancreatitis, the main action of metabolic enzymes is to control excessive inflammation, repair, and repair the damages

In the *acidic pancreas and bile* functional stage, taking enzyme supplements for 3-4 weeks may decrease symptoms of indigestion, give the pancreas a functional break and reduce the population of yeast and parasites

In the *pancreatic deficiency* stage, taking enzymes combined with drinking the healing mineral water prepared from genuine Karlovy Vary spring salt for 1.5 - 2 months may be very beneficial

During chronic pancreatitis, the enzyme therapy is designed not only for food digestion, but also, also for the anti-inflammation purpose

After using enzymes, individuals with Candida-yeast overgrowth, may experience die-off reactions

In the *pancreatic failure* stage, enzyme therapy has been widely used. Criteria effectiveness of this treatment is lessening of steatorrhea and malabsorption syndrome

In the *pancreatic failure* stage, focus has to center on alleviation of the symptoms, but, not on an overdose of systemic enzymes

HEAL YOUR PANCREAS, HEAL YOUR DIGESTION AND HEAL YOURSELF

Non-drug, non-knife healing programs for the *acidic pancreas and bile*, *pancreatic deficiency* and *pancreatic failure* stages

For individual

s with a medical background

This chapter is for health providers and for individuals wanting to know more about nondrug, non-knife approaches to pancreatic, and many digestive disorders. All healing approaches here are not the rule or dogma, but just a sharing of the experience of the authors with open-minded or curious health practitioners. Everyone's health situation is unique; therefore, for ill individuals or their family members, we strongly recommend finding a knowledgeable health provider to work with. Self-healing is not recommended.

In this chapter, the healing actions will be summarized and divided according to the different stages of exocrine and endocrine pancreatic deficiencies. Restoring the proper pancreatic work is the key for improving digestion!

There is no digestion without proper pancreatic function

Clinical practice shows that many digestive symptoms such as gas, bloating, belching, heartburn, abdominal cramps, pains, diarrhea, and constipation are alleviated after pancreatic function, and property and release of bile are normalized. Patients can evaluate their pancreatic function or progression of his/her problems by evaluating these digestive symptoms. Fewer symptoms are a good sign of pancreatic function normalization. It is necessary to note, that patient participation is necessary to normalize pancreatic function. At first, the authors focus on natural ways of normalizing exocrine pancreatic function.

Normalizing Exocrine Pancreatic Function

The pancreas is designed for manufacturing large amounts of digestive enzymes. This gland normally secretes 1.5-2 liters of the pancreatic juice daily, which consists of water, electrolytes, bicarbonates, and enzymes. Protein secretion per gram of pancreatic tissue is superior to that of any other organ [70] and more than 85% of the protein content consists of pancreatic enzymes that can digest lipids, proteins, and carbohydrates. The pancreas, similar to the liver, is an alkaline gland.

The pancreatic juice and bile are alkaline solutions, with pH 7.5 - 8.5. Alkalinity of bile and pancreatic juice strictly depend upon relatively large amounts of electrolytes (sodium, potassium, magnesium, calcium), but depend even more upon the enormous amounts of bicarbonate. There are no other organs that are designed to produce so much bicarbonate.

The pancreas receives water, electrolytes, bicarbonate and proteins from the blood. As a result, the volume and quality of pancreatic juice in normal conditions vitally depends on blood pH, the bicarbonate blood buffer, normal capacity of the electrolytes and osmotic pressure in the blood.

Therefore, in all stages of exocrine pancreatic deficiency, healing needs to center on restoring the sufficient capacity of water, electrolytes and bicarbonates in the body. For almost all digestive disorders, drinking healing mineral water made from genuine Karlovy Vary spring salt has proven this idea for over 250 years. Additionally, rehydrating and supplying the body with magnesium and potassium are also extremely useful. More information may be found in the *Chapter 33-European-Style Healing for Digestive (Pancreatic) Disorders – Karlovy Vary Healing Mineral Water*.

It is the experience of the authors that herbal Biotherapy formulas such as *Cleanse and Purify* and *Damp Water*, with plenty of water, may stimulate the production and elimination of bile and pancreatic juice. On the other hand, a

sufficient supply of protein is also supremely powerful (blood albumin test has to be normal).

The pancreas is a hard worker with 90% of capacity for exocrine function. Exhaustive work of the pancreas in modern populations is dependent upon the digestion of the “dead” food without natural digestive enzymes that also contains artificial, toxic components and unnatural food combinations. More information may be found in the *Chapter 17-A Healing Pancreatic Diet*.

Drinking healing mineral water, following a healthy diet and taking healing herbs and supplements naturally promote the proper amounts and quality of pancreatic juice, thus, decreasing indigestion and postponing the development of pancreatic damage.

During digestion, enzymes process complex substances such as proteins, fats and carbohydrates into simple substances for subsequent absorption. The main digestive processes occur in the small intestine. There nutrients are split into monomers and absorbed to enter the blood and lymph system.

The process of digesting the nutrients in the small intestine has 3 interconnecting stages: digestion inside the lumen of the small intestine, membrane digestion and absorption. This is like a “digestive-transport conveyer” through the pipeline – the gut. Here, pancreatic enzymes play a key role in digestion.

The digestive process is carried out when the food masses move in the gastrointestinal tract from one chamber to another. Before enters the small intestine, the digestive process starts in the mouth and continues in the stomach. Digestion in these two chambers is particularly important for

proper function of the pancreas. Digestion in the mouth requires vigorous chewing and appropriate amounts of digestive saliva enzymes such as ptyalin. Digestion in the stomach requires proper amounts of hydrochloric acid, stomach enzymes (pepsin) and normal motility of smooth muscles and sphincters. Suppressing digestion in the mouth and especially in the stomach, forces a severe effort on exocrine pancreatic function and the entire digestive process.

1. Relationship between Gastric and Pancreatic Secretion

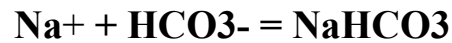
The digestive process is carried out when the food masses move in the gastrointestinal tract from one chamber to another. Before enters the small intestine, the digestive process starts in the mouth and continues in the stomach. Digestion in these two chambers is particularly important for proper function of the pancreas. Digestion in the mouth requires vigorous chewing and appropriate amounts of digestive saliva enzymes such as ptyalin. Digestion in the stomach requires proper amounts of hydrochloric acid, stomach enzymes (pepsin) and normal motility of smooth muscles and sphincters. Suppressing digestion in the mouth and especially in the stomach, forces a severe effort on exocrine pancreatic function and the entire digestive process.

According to the current model, the constancy of blood pH is maintained by buffer systems. The blood's main buffer is the bicarbonate buffer, which is active in the cells and fluids and works as:



Under the influence of carbonic anhydrase, the pancreatic duct cells produce the bicarbonate ion HCO_3^- . The bicarbonate ion enters the duct lumen via

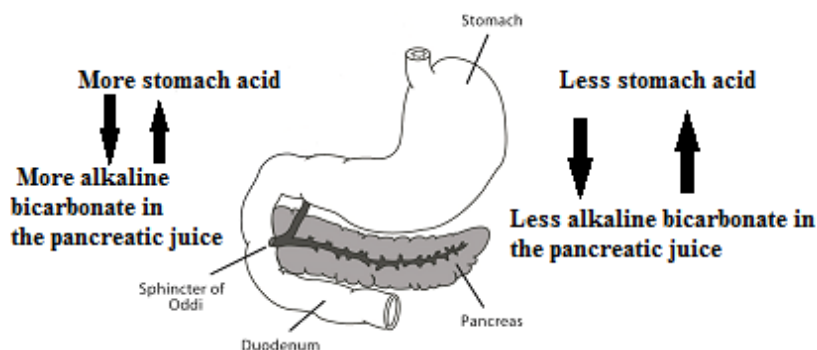
the Cl^- - HCO_3^- antiporters and Na^+ diffuses through the “leaky” tight junction into the lumen. Together, these actions accomplish NaHCO_3 secretion.



The H^+ that is generated from H_2O within the duct cell enters the blood across the basolateral border either by active transport or by the Na^+ - H^+ antiporter. Thus, the pancreatic cells secrete HCO_3^- and absorb H^+ , whereas the gastric parietal cells secrete H^+ and absorb HCO_3^- , so the acid–alkaline balance of the body is normally not altered by digestive secretions.

The amount of bicarbonate that is produced by the pancreas neutralizes the acid in the chyme and makes an alkaline environment in the duodenum for proper work of the pancreatic digestive enzymes.

Gastric acid is natural stimulant and regulator for releasing alkaline bicarbonate by the pancreas



Follow the law of balance: if the production of gastric acid by stomach cells is suppressed, the production of bicarbonate by pancreatic cells also will be suppressed. Alternatively, one may suggest the opposite: that low

bicarbonate secretion by the pancreas results in low stomach acid secretion, as well. Mother Nature keeps this strict balance.

Secretion of bicarbonate is the main sign of pancreatic health. In chronic pancreatitis even without gastric acid suppression, intraduodenal pH is usually significantly decreased (acidification). Several studies have demonstrated that, in patients with chronic pancreatitis, intraduodenal pH is significantly lower than in healthy subjects.[175, 321,322]

More than 30 years ago, Regan PT *et al.* (1979) found that reduced bicarbonate output, rather than increased acid delivery, was responsible for higher duodenal acidity in patients with pancreatic insufficiency. Those researchers also discovered significant reductions in postprandial acid, pepsin and total secretory outputs in their patients. [232]

Below, there are possible negative subsequences of low stomach acidity.

Breakdown to digest foods properly

This will create a malabsorption of proteins, deficiency of the minerals (calcium, magnesium, iron, etc), vitamins (C, B-12), and trace elements.

Breakdown to sterilize the stomach contents

This will cause microbes, yeasts, viruses, parasites enter the small and large intestines, gallbladder, pancreas. intestinal dysbiosis (Candida, SIBO) will occur.

Breakdown to open, seal or empty stomach properly

This will cause GERD (open valve between the stomach and esophagus). Stomach content can reach esophagus.

Not properly digested foods (through the open valve between the stomach and duodenum; pyloric valve) go into the small intestine, fermented by bacteria and yeast causing internal toxicity.

Breakdown to work of the pancreas

Stomach acid signals the release of the pancreatic digestive enzymes and bicarbonate.

Low stomach acidity causes low alkalinity of the pancreatic juice.

All organs of the upper gastrointestinal tract, work as an orchestra by conducting nerve and digestive hormone regulation. The orchestra requires that all musicians play the same music; otherwise, there will be a cacophony. In nature, keeping the balance is similar to the unified orchestra.

For example, during normal conditions, gastric acid and chyme acidity in the first part of the duodenum are initiated upon the releasing of secretin. Secretin is a digestive hormone that stimulates the production of large amounts of alkaline (bicarbonate) pancreatic juice. If there is no gastric acid, there is no secretin release. No secretin = no alkaline pancreatic juice. There is no proper digestion without alkaline pancreatic juice.

Mother Nature does not make a mistake; therefore, high acidity in the stomach has physiological significance. It includes digestion and assimilation of over 20 essential nutrients, maintenance of the acid barrier that restricts harmful microorganisms such as *Clostridia* will reach the intestines. It also supports right body's acid-alkaline balance and keeps the proper balance of friendly intestinal flora.

It is the opinion of the authors that in the reversible *acidic pancreas and bile* and compensated *pancreatic deficiency* stages of exocrine pancreatic deficiency disorders, appropriate gastric secretions, and function are crucial for the proper function of the pancreas and whole digestion.

Holistic Approach in the *Acidic Pancreas and Bile, Pancreatic Deficiency, and Pancreatic Failure* Stages of Exocrine Pancreatic Deficiency

People that suffer from GI disorders for a long time, usually know their diagnoses either from the PCP, gastroenterologist or, as a third opinion, through internet searching. Some people are extremely disappointed with the knowledge that there is no cure for IBS, Dyspepsia, Crohn's Disease, Sphincter of Oddi Dysfunction, Chronic Pancreatitis, etc.

According to statistics, GI disorders have been raised in epidemic proportions for the last 50 years despite achievements of modern medicine. Millions, if not billions, of people in the world suffer from the *acidic pancreas and bile* functional stage of exocrine pancreatic deficiency with mild indigestion symptoms. Most of them consider themselves healthy and do not pay attention to occasional gas, bloating, abdominal fullness, cramps, diarrhea or constipation. For example, some researchers believe that only 10% of people with IBS seek the advice of a physician.[323] If a person with functional digestive disorders seeks medical help, their tests usually normal and treatment is only marginally effective, noncurative and will have to be continued for years. There is no diagnostic test specifically for IBS, so other conditions have to be eliminated before this diagnosis can be made.

Restoring proper digestive functioning by focusing on the root of the problem is one of the key goals in the treatment of functional digestive disorders, which we refer to as *acidic pancreas and bile*

Healing this functional (reversible) stage may not require extensive medical treatments. Changes of the acidic lifestyle, proper alkaline diet with large amounts of natural digestive enzymes from food, restoring the acid –

alkaline balance in the body and appropriate intestinal ecology can stop and reverse this problem and avoid future deteriorations.

Unfortunately, most people either ignore this problem or receive symptomatic treatment. Over time, functional changes lead to structural damages of the pancreas and other digestive organs, causing the incomplete reversible stage of exocrine pancreatic deficiency – *pancreatic deficiency*. Even in this stage, focusing on restoring proper pancreatic health may bring a fulfilled remission. Ignoring causative therapy later exhausts the working capacity of pancreatic tissue, which leads to *pancreatic failure*.

What does this happen? Why are digestive disorders epidemic?[109]

There is not enough time to blame our genes, which is why many scientists and doctors pay attention to environmental factors such as food, water, stress, lifestyles, toxic chemicals, alcohol consumption, inner ecology, etc.

There are epidemics of metabolic acidosis, digestive disorders connected with low exocrine pancreatic function and intestinal dysbiosis with Candida-yeast overgrowth and/or Small Intestine Bacterial Overgrowth. Altogether, this makes the vicious circle.

Many articles and medical books focus only on the treatment of some parts of this circle, but, to achieve the medical goals, holistic treatment has to be administered on all parts simultaneously.

Normal slightly alkaline body's acid – alkaline balance, proper digestion, and healthy intestinal ecology are interrelated, and they are the cornerstones of the quality of health and longevity. Acidity, poor digestion, and bad inner ecology developed over time as “diseases of civilization.” That is the price to pay for breaking laws of nature.

The authors share their many years of experience of the healing digestive disorders while focusing on the PANCREAS as a chief player on the gastrointestinal team. To illustrate that, the authors use a functional, clinical classification to adjust healing actions, which were explained before according to medical diagnoses, symptoms, and conditions.

Treatment options that are safe, effective and the least invasive should be tried first, and if they are ineffective, then appropriate, different treatments can be employed.

All stages of exocrine pancreatic deficiency such as *acidic pancreas and bile*, *pancreatic deficiency* and *pancreatic failure* require some nondrug healing measures that focus on the causative factors. As a result, symptoms may be reduced due to improvements of digestion and many other gastrointestinal functions.

The basic actions for all exocrine pancreatic deficiency stages include:

◊ **Healing Diet**

◊ **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◊ **European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**

◊ **Anti-Candida Program**

Throughout this book, there is a lot of information about these nondrug approaches.

Interesting facts at a glance:

There is no digestion without proper pancreatic function

When pancreatic function, quality, and releasing of bile are normalized many digestive symptoms such as gas, bloating, belching, heartburn, abdominal cramps, pains, diarrhea, and constipation are alleviated

Digestion in the mouth and stomach is particularly important for appropriate function of the pancreas

Secretion of bicarbonate is the main sign of pancreatic health. In patients with chronic pancreatitis, intraduodenal pH is significantly lower than in healthy subjects because of low bicarbonate secretion

There is a strong correlation between gastric and pancreatic secretion

Gastric acid is a natural stimulant and regulator for releasing alkaline bicarbonate by the pancreas

Follow the law of balance: if the production of gastric acid by stomach cells is suppressed, the production of bicarbonate by pancreatic cells also will be suppressed

Alternatively, low bicarbonate secretion by the pancreas due to pancreatitis results in low stomach acid secretion, as well

Appropriate gastric secretions and function are crucial for the proper function of the pancreas and whole digestion

There are epidemics of metabolic acidosis, digestive disorders connected with low exocrine pancreatic function and intestinal dysbiosis with Candida-yeast overgrowth and/or Small Intestine Bacterial Overgrowth. Altogether, this makes the vicious circle

Holistic treatment has to be directed on all those parts simultaneously

Treatment has to be less dangerous than the disease

Some nondrug healing measures that focus on the causative factors can improve the digestion and various gastrointestinal functions

Self-treatment is not recommended in any stages of exocrine pancreatic deficiency

Chapter 45-Healing Program for *Acidic Pancreas and Bile* Stage

For individuals with a medical background

This is the functional stage when the problem develops by changing the biochemistry and activity of pancreatic juice and bile without structural damage of the GI organs. No wonder, the simple tests, are usually normal in this stage.

Possible diseases and conditions associated with the *acidic pancreas and bile* stage: functional dyspepsia, biliary dyskinesia, GERD, Sphincter of Oddi Dysfunction type III, Irritable Bowel Syndrome (IBS), Intestinal Dysbiosis (Candida-yeast overgrowth), Metabolic Syndrome, etc.

It is the opinion of the authors, that millions, if not billions of people in the world have some degree of this condition. Most of them consider occasional symptoms of indigestion as normal and only a small contingent of them start to take some OTC medications or seek medical help from their PCP (primary care physician) due to abdominal cramps or pains.

The *acidic pancreas and bile* condition is reversible

Common Symptoms of the *Acidic Pancreas and Bile Stage*

This condition is chronic, meaning that the symptoms persist for more than 3 months, or there have been more than 3 attacks of exacerbation during the past year with possible connections to food consumption.

i. Pain, particularly infrequently abdominal cramps after heavy meals or alcohol intake. The main sign of this pain is that it is not constant or really strong. These abdominal cramps are usually connected with “unmixable” food such as heavy, fatty/protein/starchy/ sugary mixed meals. Abdominal pain is a guard dog of our health that barks at any time to signal a potential problem in the GI tract. There are a few reasons for this pain such as spasms of smooth muscles (sphincters) surrounding the gastrointestinal tube including the stomach, small and large intestines, gallbladder, and plenty of ducts, which carry the bile and pancreatic juice. The pain may be caused by distention of these organs mainly by gas, liquids due to indigested and fermented food or distention and increasing pressure inside the bile and pancreatic ducts.

ii. Gas and bloating frequently accompany this condition and are dependent upon a few things. First, acidic changing in the pancreatic juice and bile leads to decreased activity of digestive pancreatic enzymes. Undigested food is fermented in the small intestine causing gas and abdominal distention.

Robert Hegglin MD, a prestigious German clinician, in his famous *book “Differential Diagnostic of Inner Diseases”*, stated that persistent gas and bloating are usually symptoms of low pancreatic function.[324]

Second, improper combinations of foods (when the sugary and starchy foods mix with proteins) lead to gas and bloating. Proteins are digested in the stomach for 4-6 hours. During that time, sugary and starchy foods are not digested in the stomach, but are fermented by bacteria, producing a lot of gas.

iii. Belching often happens after regular overeating of heavy, fatty/protein/starchy/sugary mixed meals. Eating this way also promotes fermentation in the stomach and intestines. A lot of gas increases the pressure inside the stomach, causing gas and indigested food to come out.

iv. Nausea/Vomiting is very rare. These symptoms can be the signs of the body trying to eliminate the indigested, fermented and toxic food.

v. Heartburn is frequent after heavy, fatty/protein/ starchy/sugary mixed meals.**vi. Stool** has a tendency to alter with constipation.

vii. Weight has a tendency to be gained, especially around the belly.

viii. Food Sensitivity is common to milk and wheat products.

Healing of the *Acidic Pancreas and Bile* Stage

This stage can require some non-drug healing actions, so that the symptoms will be diminished due to the improvement of digestion. The basic actions include:

◊ **Healing Diet**

◊ **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◊ **European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**

◊ **Anti-Candida Program**

Some healing recommendations that can be useful in the following *acidic pancreas and bile* stage conditions are not prescriptions to treat diseases. The authors share their personal experience of healing these conditions and the nondrug, non-knife holistic approaches, which are widely used in holistic European clinics and by doctors in the European healing mineral spas. It is not a prescription “cook book” with strict doses or time of consumption for a quick fix.

Treatment of functional digestive disorders requires active patient participation, their cooperation with a knowledgeable health provider, insistence and persistence both from patient and specialist and, certainly, believing in success.

It is the experience of the authors that positive results, such as diminishing symptoms and improving the overall well-being, typically occurs in 2 – 3 months.

Let us focus on some common conditions that require particular attention and healing approaches.

Interesting facts at a glance:

Restoring the proper pancreatic function is the key for improving the whole digestion

In all stages of exocrine pancreatic deficiency, the healing needs to center on restoring the sufficient capacity of water, electrolytes and bicarbonates in the body – the major components of pancreatic juice

For almost all digestive disorders, drinking healing mineral water made from genuine Karlovy Vary spring salt has proved this idea for 250 years

All stages of exocrine pancreatic deficiency such as *acidic pancreas and bile*, *pancreatic deficiency* and *pancreatic failure* can require some basic actions

◊ Healing Diet

◊ Drinking healing mineral water prepared from genuine Karlovy Vary spring salt

◊ European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy

◊ Anti-Candida Program

Restoring proper digestion by focusing on the root of the problem is one of the key goals in the healing of functional digestive disorders, which we refer to as *acidic pancreas and bile*

a. Functional Dyspepsia/Irritable Bowel Syndrome (IBS)

Statistics show that Functional Dyspepsia/Irritable Bowel Syndrome (IBS) affects 20% of the population and mostly people of working ages. Even though, these conditions are not life-threatening diseases, it can be severely debilitating for people who suffer from their nasty symptoms such as abdominal cramps, pain, bloating, gas, urgency, diarrhea, or constipation.

Besides digestive problems, most sufferers from IBS may experience stress related symptoms such as depression, anxiety, insomnia, or fibromyalgia with muscle pain and fatigue. Development of these conditions certainly depends upon low exocrine pancreatic function and intestinal dysbiosis.

Holistic Protocol for Functional Dyspepsia/Irritable Bowel Syndrome (IBS)

The basic actions in general include:

◊ **Healing Diet**

◊ **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◊ **European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**

◊ **Anti-Candida Program**

Nutritional Supplementation

Probiotics: Extensive use of antibiotics and reduced gastric acidity leads to overgrowth of the intestinal Candida-yeast. This may either initiate problems or aggravate existing symptoms. Probiotics are friendly intestinal flora that includes species such as *Lactobacillus acidophilus*, *Bifidobacteria* and *Lactobacillus bulgaricus* among others. The friendly intestinal flora inhibits Candida-yeast overgrowth. At Biotherapy, we use Healthy Start, Trenev Trio and Probiotic Pearls for restoring the healthy balance of intestinal flora.

Digestive Enzymes: Biotherapy Digestive Enzymes, Bio-Zyme, ProGest. These enzymes aid digestion and may have anti-inflammatory actions.

Biotherapy Sunshine D Plus: 5,000 IU or more to keep blood levels of vitamin D more than 50 ng/mL.

Biotherapy Cellular Magnesium-Potassium: may help easily to evacuate food from the stomach, normalize the acid – alkaline balance and decrease spasms and constipation.

Practically, decreasing of the symptoms of indigestion is an important sign of improving function of the pancreas. Below, some nutritional and herbal supplements, and healing techniques, which may be useful, for a holistic approach to *acidic pancreas and bile* stage of the pancreatic deficiency.

Healing of Functional Dyspepsia/IBS Digestive Symptoms

Nutritional and Herbal Supplements -- Gas Bloating - Diarrhea - Constipation - Cramps

Karlovy Vary Healing Mineral Water ----- OK ----- OK -----
OK ----- OK

Probiotics: Healthy Start, Trenev Trio ----- OK ----- OK -----
OK ----- OK

Enzymes: Biotherapy Digestive Enzymes,

Bio-Zyme, ProGest ----- OK ----- OK -----
OK ----- OK

Berberine Complex ----- OK ----- OK

Biotherapy Cleanse and Purify ----- OK ----- OK

Biotherapy Damp Water ----- OK ----- OK

Biotherapy Lower Bowels Formula -----
OK

Biotherapy Pancreatic Herbal Formula ----- OK ----- OK -----
----- OK

Biotherapy Pantethine -----
OK

Biotherapy Yin Formula ----- OK -----
----- OK

Biotherapy Immuno Zinc ----- OK

Biotherapy

Cellular Magnesium-Potassium ----- OK -----
 OK ----- OK

Mentharyl ----- OK ----- OK -----
 ----- OK

Chamomile Herbal Tea ----- OK -----
 OK ----- OK

Fennel Herbal Tea ----- OK -----
 ----- OK

Ginger Herbal Tea ----- OK -----
 OK ----- OK

Licorice Herbal Tea ----- OK -----
 OK

Pau D'Arco Herbal Tea ----- OK

Peppermint Herbal Tea ----- OK -----
 ----- OK

St. John's Wort Herbal Tea ----- OK ----- OK -----
 ----- OK

Healing of Functional Dyspepsia/IBS Stress Symptoms

Nutritional and

**Herbal Supplements ----- Depression -- Anxiety -- Insomnia -
 Fibromyalgia, Pain - Fatigue**

5-HTP ----- OK ----- OK ----- OK

Biotherapy B 12 Sublingual --- OK ----- OK ----- OK
 ----- OK

Biotherapy Evening

Primrose Oil ----- OK ----- OK -----
 OK ----- OK

Biotherapy DL-Pheine ----- OK -----
 OK ----- OK
 Biotherapy Iodine Balance -----
 OK ----- OK
 Biotherapy Pantethine ----- OK
 ----- OK
 Biotherapy Siberian Ginseng -- OK -----
 OK ----- OK
 Biotherapy Yin Formula ----- OK ----- OK ----- OK ----- OK
 GABA ----- OK ----- OK ----- OK
 Karlovy Vary Healing Mineral Water -----
 OK ----- OK
 Biotherapy Cellular
 Magnesium-Potassium ----- OK ----- OK ----- OK -----
 OK ----- OK
 L-Glutamine ----- OK ----- OK
 Mega EPA/DHA ----- OK ----- OK-----
 OK ----- OK
 Biotherapy Melatonin ----- OK -----
 OK
 MSM -----
 OK
 St. John's Wort Extract ----- OK -----
 OK ----- OK
 Sunshine D Plus ----- OK ----- OK -----
 OK ----- OK

Some Practical Non-Drug Approaches in Resolving Functional Dyspepsia/IBS Symptoms

----- Acupuncture, ---- Chiropractic ----- Massage ---
 --- Relaxation,
 ----- Electro Acupuncture -- Manipulations, ---- Point
 Massage - Meditation,
 ----- Visceral Massage -----
 ----- Hypnosis,

Custom CD Hypnosis

Gas, Bloating ----- OK ----- OK ----- OK ---
 ----- OK

Diarrhea ----- OK ----- OK ----- OK --
 ----- OK

Constipation----- OK ----- OK----- OK -----
 ----- OK

Abdominal Cramps ----- OK ----- OK----- OK -----
 ----- OK

Depression ----- OK ----- OK----- OK -----
 ----- OK

Insomnia ----- OK ----- OK -----
 ----- OK

Fibromyalgia, Pain ----- OK ----- OK----- OK -----
 ----- OK

Fatigue ----- OK ----- OK----- OK -----
 ----- OK

Interesting facts at a glance:

Functional Dyspepsia/Irritable Bowel Syndrome (IBS) affects 20% of the population and mostly people of working ages

Holistic Protocol for Functional Dyspepsia/Irritable Bowel Syndrome (IBS) include the basic actions (healing diet, drinking healing mineral water prepared from genuine Karlovy Vary spring salt, European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy, Anti-Candida program), nutritional supplementation and herbal medicine

Acupuncture, chiropractic manipulations, massage, visceral massage, relaxation, meditation, hypnosis and custom CD hypnosis are practical in resolving the symptoms of IBS and Functional Dyspepsia

b. Gastro-Esophageal Reflux Disease (GERD) and Bile/Pancreatic Reflux

For individuals lacking a medical background

Almost 40-50% of all adults in the U.S. report having some symptoms of gastro-esophageal reflux disease (GERD).

These symptoms can include:

- Heartburn (a burning sensation in the upper abdomen or chest)
- Belching
- Sour or bitter taste in the mouth
- Hoarseness
- Coughing
- Difficulty swallowing

Reflux is a backflow of liquid in the opposite direction of its normal movement. Gastro-esophageal reflux disease (GERD) is a condition, in which a backflow of stomach content travels into the esophagus, located

between the throat and stomach. Reflux means, “Wrong way traffic” and results in food, beverages, pancreatic enzymes, bile and stomach acid backing up into the lining of the esophagus. Esophageal tissue is delicate; it is not able to handle the harsh, corrosive digestive components from the stomach. The result of the reflux experienced can range from mild to severe burning sensations or discomfort often refer to as heartburn.

What keeps the stomach contents in the stomach? If healthy gymnasts in the circus moves on the trapeze with his head down nothing comes out of their stomach because of a special valve known as the Lower Esophageal Sphincter (LES). The LES is so strong that even if healthy, practiced yoga people stand on their head, the sphincter holds back the stomach contents and protects the esophagus.

The LES normally relaxes only to allow passage of food. The valve weakens or relaxes at inappropriate times, causing reflux of the stomach contents into the esophagus.

What can cause reflux?

Low amounts of stomach acid increase the chances for the reflux.

Foods (especially proteins) are digested inside the stomach within 4-6 hours by the release of large amounts of the stomach acid and stomach digestive enzymes. Mother Nature wants to keep the digestion of the proteins inside the stomach, so gastric hydrochloric acid normally triggers spasms or locks the LES. Contrary to common opinion, low stomach acidity opens the valve and allows stomach food content to move to the esophagus.

There are mechanical problems that keep the Lower Esophageal Sphincter open. A hiatal hernia occurs when part of the stomach slides through the opening in the diaphragm. More information about hiatal hernia may be found in the next section.

Inflammation and irritation of the gentle esophageal mucosa prevents the tight closure of the valve between the stomach and esophagus. Candida-yeast overgrowth inside the esophagus may be blamed. Eating hot, spicy, irritated foods, consuming alcohol, smoking cigarettes, using drugs, and some medications irritate the opening, as well. The more irritation, the weaker the LES becomes, and vice versa.

All these factors can also make the smooth muscles surrounding this valve responsible for weak and flabby valve contraction. Deficiencies of some minerals and vitamins also lead to failure of the sphincter muscle between the stomach and esophagus to close properly.

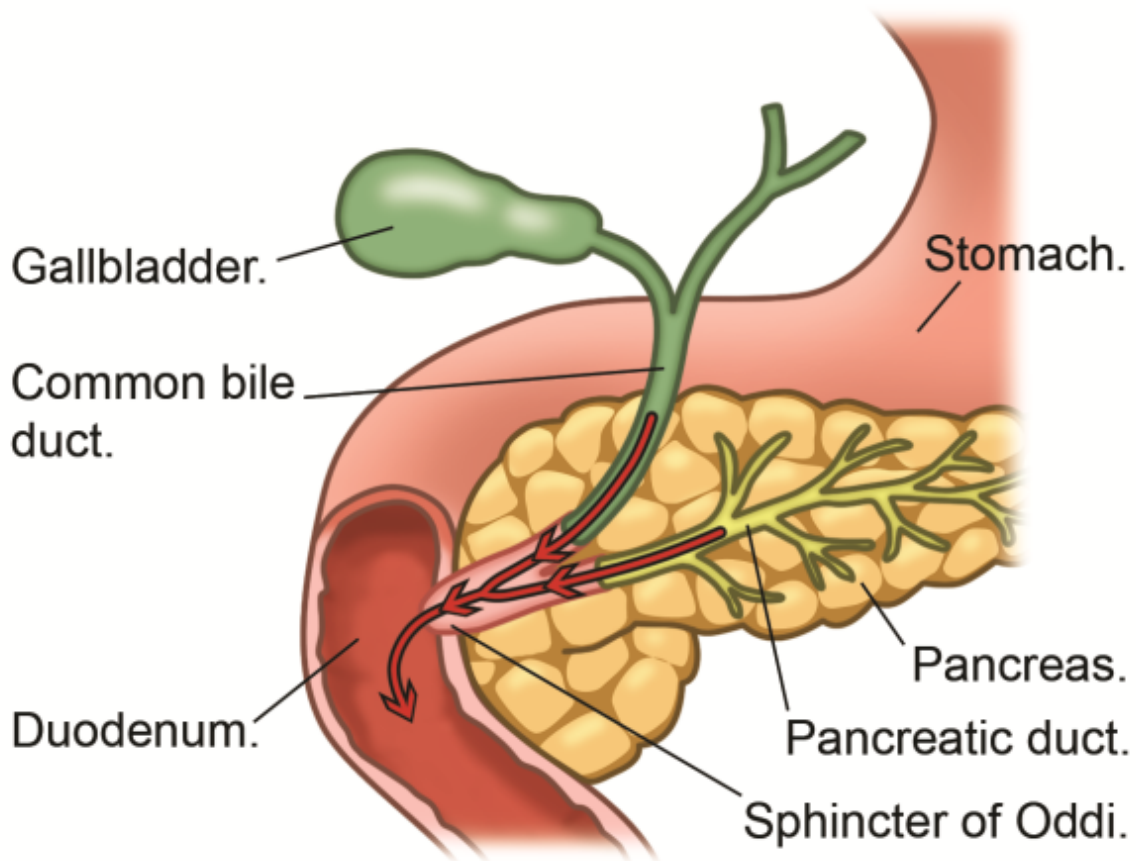
The LES opens at inappropriate times if the pressure inside the stomach is high. The valve cannot withstand the increased pressure in the stomach and unlocks. Large dinners or lying down after heavy meals and wearing tight clothing can increase the pressure inside the stomach. Improper food combinations of proteins, starches and sugars, may cause a lot of gas. This gas in the stomach looks for a way, to come out. Drinking cold, sugary, and sparkling sodas also lead to fermentation that usually causes heartburn.

Candida-yeast overgrowth leads to cravings for sugars and sweets and causes extensive fermentation in the stomach and inflammation in the esophagus. Candida-yeast produces many toxic and acidifying substances that disorganize the correct valve's contractions and proper digestion. Normally, the stomach acid is a barrier, for bacteria, yeasts to grow, and prevents them from going into the small intestine. Low stomach acid finally has the opposite effect.

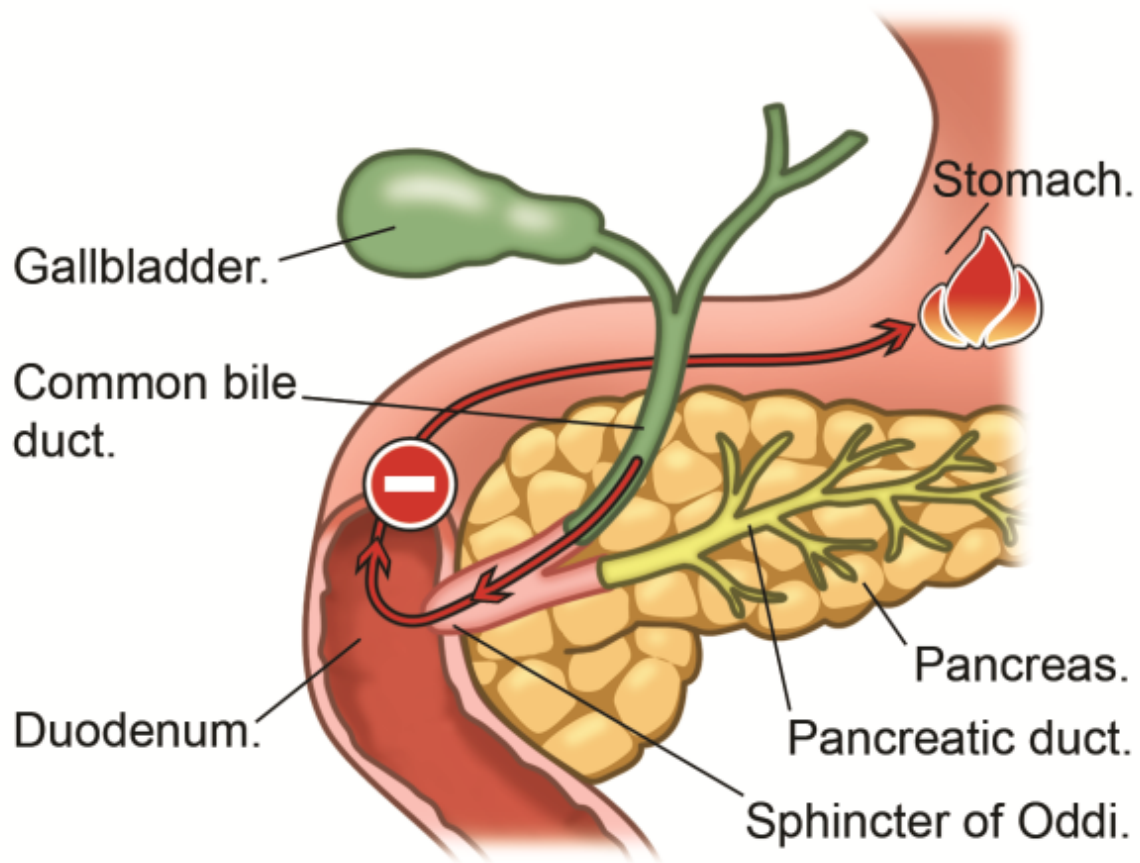
Important causes of heartburn are the low function of the pancreas and acidic "aggressive" bile. A corroded mixture of activated pancreatic enzymes and acidic "aggressive" bile due to a bile/pancreatic/gastric reflux, travels into

the stomach, irritates the duodenum and stomach mucosa and causes inflammation and ulcers. Mixed with the gastric content, this caustic mixture, (alkaline reflux), is thrown into the esophagus, leading to inflammation and severe esophageal and LES injuries.

In healthy alkaline condition mix of the bile and pancreatic juice goes down to the beginning of the small intestine - duodenum. Alkaline environment in the duodenum is the critical factor of the healthy digestion and proper movement of the digested food down to the lower area of the small intestine. Acidifying makes bile very “aggressive”. It irritates valves, ducts, duodenum wall causing jerk moving, “wrong way traffic”, bile and pancreatic juice mixture back flow – bile/pancreatic reflux into the stomach or even esophagus. (See pictures below).



Normal moving bile and pancreatic juice



Bile/pancreatic reflux into the stomach

Reflux of “aggressive” acidic bile and activated pancreatic digestive enzymes into the duodenum, stomach, and esophagus corrodes, irritates, and injures the walls, ducts, valves causing inflammation, ulcers, and possible cancers in these areas. Therefore, pandemic of the whole body acidity – metabolic acidosis in the modern world may explain a large number of gastro-esophagus reflux diseases, ulcers and inflammation in the duodenum, stomach, and esophagus.

To summarize, it may be understandable that people with gastroesophageal reflux disease (GERD) have several interrelated causes for this condition; therefore, they require many different ways to improve GERD.

The main way to relieve the symptoms of GERD is by a healing diet. More information about diet and GERD may be found in the Chapter 31-Dietary Recommendations for *Pancreatic Deficiency* Stage

There are foods that trigger heartburn. The most effective way of finding personal triggers is to start with an Elimination Diet. Some real culprits that turn up time after time are:

1. Fatty meats and deep-fried foods (barbeque, French fries)
2. Processed citrus and orange juice
3. Chocolate
4. Garlic, fried onions and spicy foods
5. Coffee and caffeinated drinks
6. Peppermint
7. Alcohol consumption
8. Processed tomato products (salsa, ketchup)
9. Sodas (sugar, caffeine and carbonation)

Additional practical measures to reduce GERD symptoms are:

- > Avoiding alcohol
- > Not smoking
- > Losing excess weight
- > Standing upright or sitting up straight/maintaining correct posture
- > Wearing loose-fitting clothes
- > Raising the head of your bed

For individuals with a medical background

The authors place gastroesophageal reflux disease, commonly known as heartburn or GERD in the *acidic pancreas and bile* functional (reversible) stage of exocrine pancreatic function deficiency.

The two most frequently reported symptoms of GERD are heartburn and a burning sensation that gradually move upward from the stomach into the throat along with a sour, bitter taste in the mouth. According to Associate Professor of Medicine at the Mayo Medical School, Rochester, MN, G. Richard Locke III, M.D, approximately one third of the population have GERD and 1 out of 5 people experience heartburn or acid regurgitation on a weekly basis and 2 out of 5 people experience heartburn or acid regurgitation at least once a month <http://www.aboutgerd.org/site/about-gerd/characteristics/prevalence>.

Focusing only on heartburn and pointing to hyperacidity of the stomach in GERD, does not explain pathogenesis and narrows the therapeutic approach in this widespread condition. Heartburn is rarely only one of the symptoms of GERD, as many other symptoms of *acidic pancreas and bile* stage occur, such as gas, bloating, abdominal cramps, belching, and diarrhea/constipation. [325]

In GERD, hydrochloric acid is not the only one substance that refluxes from the stomach into the esophagus. Trypsin and bile acids may also reflux into the esophagus due to duodenogastro-oesophageal reflux (DGOR) or bile/pancreatic reflux.

Surgeons have seen the bile content inside the stomach of people with stomach ulcers for 100 years. There are many articles and book discussing possible damage of gastric and esophagus mucosa that could be caused by bile. In the last 15 years, techniques were developed that measured the pH and the content of bile in the stomach and esophagus by detecting the presence of bilirubin - "Bilitec," thus, making the situation inside the stomach clearer.

Bilitec tests increase the sensitivity and accuracy of GERD diagnosis. Therefore, researchers can realize that increased bile reflux is correlated with increased severity of Barrett's esophagus. [338, 339]

Nowadays, there is strong evidence that bile reflux combined with acid reflux is more harmful to the esophagus than acid reflux alone

Opposite to popular opinion that only high gastric acidity causes GERD, the main factors in developing this condition could be bile/pancreatic reflux, metabolic acidosis and intestinal dysbiosis. The authors strongly believe that healing actions in GERD have to be directed in all three directions simultaneously.

In metabolic acidosis, there is a shortage of alkaline radicals in the blood; therefore, bile and pancreatic secretion sustain serious acidic biochemical and biomechanical changes. Whole body acidity is the main trigger of the duodenogastric reflux (bile and trypsin reflux). Consequently, bile acids and trypsin together with hydrochloric acid form an extraordinarily “aggressive” mix that leads to the persistence of mucosal lesions and damage of mucous membranes of the stomach and esophagus, causing inflammation, ulcers, esophagitis, Barrett's esophagus and cancer.

The simple model of pathogenesis maybe looked at in this manner.

The slightly alkaline pH of blood is a constant factor of homeostasis. The human being has many ways to keep the consistency of blood pH. One of these extremely powerful mechanisms is the bicarbonate buffer in the blood.

Chronic metabolic acidosis depletes this buffer system; however, the individual will maintain constant blood pH because the organism must save the vital organs such the heart, lungs and brain.

The organism has a vital mode to keep the maximum of bicarbonates and other electrolytes in the blood to stay alive. This process happens at the price of other organs. The main sufferers are alkaline glands: the liver and pancreas. The scientists found that the pancreas and liver extract bicarbonate ions primarily from the blood. The low capacity of the bicarbonate buffer leads to glands secretions of bile and pancreatic juice undergoing serious biochemical changing and diminishing pH (acidification).

Results of Japanese researchers Usui R. *et al.* (1991) indicated that bile pH is affected mostly by bicarbonate - HCO_3^- . [214] Pancreatic secretion also related to the concentration of bicarbonate in the blood and experiments suggested that most if not all the bicarbonate of pancreatic juice must come from plasma.[104, 114, 115]

Bile is a slightly alkaline solution with an extraordinarily complicated and gentle balance of water, electrolytes, bicarbonates, cholesterol, lecithin and bile acids. Most bile acids are in a conjugated, soluble, neutral form (bile salts). The importance of conjugated forms is well established. Acidic changing in the bile leads to deconjugation and precipitation of bile acids. Insoluble bile acids are extremely “aggressive” chemical substances. Thus, insoluble bile acids make acidic bile irritable. Acidic bile irritates the surrounding tissues, mucus membranes and sphincters, and additionally, causes bile reflux by the backflow of stomach contents. Acidic bile may lead to bile-pancreatic reflux, spasms of the Sphincter of Oddi, duodenal ulcers and duodenitis, irritation of the pyloric sphincter, stomach ulcers, duodenogastro-oesophageal reflux (DGOR) or bile/trypsin reflux into the stomach and esophagus.

Nehra D. *et al.* (1999) in the article “*Toxic bile acids in gastro-esophageal reflux disease: influence of gastric acidity*” that was published in *Gut* and others research focused on the role of bile in the esophageal damage.[213, 268]

In 1999, Nagendra Myneni, M.D. and Anil Minocha, M.D. from the Department of Gastroenterology at Southern Illinois University School of Medicine Springfield, Illinois published the article “*Bile Acids and Esophageal Injury: A Resolution to the Controversy?*” The researchers found that a mixed reflux of acid and bile acids was noted in 80% of Barrett's esophagus group and 40% of the erosive esophagitis group. 20% of all subjects had significant bile acid reflux without any acid reflux.[215]

Roberto Penagini (2001) [219] in the *European Journal of Gastroenterology & Hepatology* confirmed that duodenal contents and especially bile acids and trypsin, are noxious to the esophageal mucosa, with their damaging possible depending on pH.

Later, researchers from the UK, Cronin J. *et al.* (2010) [218] considered “bile acids have been demonstrated, through the use of animal models and clinical association studies, to play a role in neoplastic development in Barrett's metaplasia”. In their study, the combination of bile with appropriate pH is critical, as pH alters bile acid activity enormously. “Hence, glycine-conjugated bile acids are involved in neoplastic development at acidic pH (pH \approx 4), and unconjugated bile acids are involved in neoplastic development at more neutral pH (pH \approx 6). Bile acids (at the appropriate pH) are potent DNA-damaging agents. This combination of induced DNA damage and cell survival by bile acids is of major importance in neoplasia. Antioxidants should be considered in chemo preventative strategy”.

Orel R. and Markovic S. (2003) from the Department of Gastroenterology, University Medical Centre, Ljubljana, Slovenia published the article *Bile in the Esophagus: A Factor in the Pathogenesis of Reflux Esophagitis in Children*. They mentioned that experimental evidence suggests that conjugated bile acids together with hydrochloric acid and pepsin can act synergistically in causing esophageal mucosal injury at low pH, while unconjugated bile acids together with trypsin can cause mucosal damage at neutral pH.[216]

Studies by Salo JA, Kivilaakso E. (1984) suggest that trypsin and bile salts are the causative agents in alkaline reflux esophagitis. In addition, these authors showed that cholate, especially in its deconjugated form, significantly increased the mucosal damage caused by trypsin. They suggested that trypsin and bile salts have a synergic effect on esophageal mucosa, which may have pathogenetic significance in clinical alkaline (pH 7 and up) reflux esophagitis.[217]

It is common sense that the stomach that produces the hydrochloric acid is the organ that participates in the body's acid – alkaline regulation. There is natural harmony and balance between the amount of stomach acid, alkalinity and amount of pancreatic juice and bile.

Normally, the more H^+ in the gastric juice, the more bicarbonate - HCO_3^- is in the pancreatic juice. If secretion of hydrochloric acid is diminished, the acidic cations - H^+ are retained in the blood. Therefore, the organism spends its blood bicarbonate buffer to neutralize the acidity for survival. It also leads to acidification of the pancreatic juice and bile with many digestive disturbances.

Suppressed stomach acid production, influences the digestion of proteins in the stomach, and assimilation of essential minerals and vitamins, as well. [220] Stomach acid is a natural antiseptic that kills many unwanted invaders that enter the body with food and water. Low acidity of stomach juice and low alkalinity of pancreatic juice both are very important because of their negative impact on inner ecology, as well.

A study that is done by Theisen J. *et al.* (2000) from the Department of Surgery, University of Southern California, Los Angeles, U.S.A. and University Hospital Wales (D.N.), Cardiff, U.K., found that low gastric acidity causes gastric bacterial overgrowth and the bacteria-contaminated gastric milieu is responsible for an increased amount of deconjugated bile acids in the stomach. Bacterial overgrowth only occurred when the pH was > 3.8. [221]

Intestinal dysbiosis is another factor of aggravation in functional digestive diseases such as GERD. A diet with processed food and sugar, lifestyle habits, toxic environment, acidifying body chemistry, weakness of the immune system, alcohol, recreation drugs, antibiotics, and some medications etc., harmfully influences the microbial balance of the body. The consequence of these factors is the reason for the epidemic extent of intestinal dysbiosis with Candida-yeast overgrowth and, in the worst-case scenario, the development of Small Intestine Bacterial Overgrowth.

It is the opinion of the authors, that overgrowth of the bacteria *Helicobacter pylori* (H. pylori) – the pathogen that is responsible for gastric inflammation and ulcers - may be the manifestation of intestinal dysbiosis, as well.

An imbalance of intestinal flora leads to constant fermentation with bloating, gas and indigestion. By fermentation, yeast creates a large amount of alcohols, acetaldehyde and other acid producing high toxic substances. These toxic substances are responsible for numerous allergic, nervous, mental and immune disorders, which often accompany all functional digestive diseases.

Intestinal dysbiosis triggers the GERD in many ways, including:

1. Candida-yeast overgrowth causing the metabolic acidosis
2. Candida-yeast overgrowth causing bile and trypsin reflux into the stomach
3. Fermented and indigested food in the stomach producing the gas that increases pressure inside the stomach and loosens the LES
4. Candida-yeast often resides in the lower esophagus causing irritation and inflammation. The constant esophageal mucosal injury prevents the LES from closing firmly to allow stomach content to enter into the esophagus

To summarize, there is evidence that GERD has a strong link to other functional diseases such as functional dyspepsia and IBS. For example, in the study of Yarandi SS *et al.* (2010) “*Overlapping gastroesophageal reflux disease and irritable bowel syndrome,*” 63.6% of IBS patients simultaneously have gastroesophageal reflux disease (GERD) symptoms that were endoscopically confirmed. The researchers concluded “this finding shows that, in overlapping GERD and IBS, other functional abnormalities of the GI tract are also highly prevalent, suggesting a common underlying dysfunction”. [325]

The prevalence of at least weekly GORS - gastro-esophageal reflux symptoms among adults has been reported to be in the range of 10–20% in the western world. GORS are associated with a decreased health-related quality of life. GORS are established risk factors for adenocarcinoma of the oesophagus. The increasing prevalence of GERD in the last decades may call for a strengthened effort to investigate and treat this patient population,

<http://www.medscape.com/viewarticle/771054?src=mp>

GERD - Gastroesophageal reflux disease is not just acid reflux disease. Gastroesophageal reflux in many situations is alkaline reflux of the mixture of the “aggressive” alkaline bile acids and activated pancreatic enzymes from duodenum.

Decreasing exocrine pancreatic function combined with metabolic acidosis and gastro and intestinal dysbiosis are common underlying dysfunctions that trigger GERD. Focusing only on heartburn as the symptomatic treatment of

GERD, leads to developing structural damages in the stomach and esophagus over the time. In other words, we *win the battle but lose the war*.

GERD Holistic Protocol

The basic actions, in general, include:

◁> **Healing Diet**

◁> **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◁> **European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**

◁> **Anti-Candida Program**

There are a few essential components for healing GERD:

- > Enhancing exocrine pancreatic function
- > Normalizing the acid – alkaline balance, stomach acidity levels and upper gastrointestinal tract digestion function
- > Promoting a healthy balance of intestinal flora
- > Strengthening the LES
- > Decreasing inflammation of the esophagus
- > Hindering the duodenum-gastric reflux

- The **Diet** is essential for GERD. More information may be found in the Chapter 31-Dietary Recommendations for *Pancreatic Deficiency* Stage

- **Drinking warm healing mineral water prepared from Genuine Karlovy Vary Spring Salt** 30 minutes before meals for 6 weeks. European

doctors confirmed healing actions of the Karlovy Vary Healing Mineral Water by clinical research and scientific studies.[222, 223, 224, 225]

- **Nutritional Supplementation** for GERD includes the following:

- * **Probiotics:** Healthy Start, Trenev Trio and Probiotic Pearls can help to restore the healthy balance of intestinal flora. Extensive use of antibiotics and reducing gastric acidity leads to overgrowth of the intestinal Candida-yeast and SIBO. This may either initiate problems or aggravate existing symptoms. The friendly intestinal flora includes species that inhibit Candida-yeast overgrowth such as *Lactobacillus acidophilus*, *Bifidobacteria* and *Lactobacillus bulgaricus*

- * **Biotherapy Cellular Magnesium-Potassium:** may help with proper food evacuation from the stomach and normalizing gastric acidity

- * **D-Limonene:** provides daily relief of occasional heartburn and enhances immune defenses

- * **Berberine Complex:** promotes digestion, increases bile elimination, and suppresses growth of Candida-yeast

- * **Digestive Enzymes:** Biotherapy Digestive Enzymes, Bio-Zyme promotes digestion and has anti-inflammatory actions. ProGest combines digestive enzymes with bile. Supplementation with enzymes in the *acidic pancreas and bile* stage may require short courses of 2-3 weeks as the supportive remedy

- * **Mastic Gum:** Mastica, the resinous gum of a species of Greek pistachio tree, *Pistacia lentiscus*, has been used in Greece for hundreds of years as a remedy for a broad range of gastrointestinal disorders. It has been found to be effective in the healing of GERD and various types of intestinal inflammation

- * **Biotherapy Quercetin-Bromelain Complex:** promotes digestion and has anti-inflammatory actions. Bromelain is found in the pineapple stem. Bromelain is a potent anti-inflammatory substance and proteolytic enzyme that can assist in the digestion of protein. Quercetin is a naturally occurring bioflavonoid found in high concentrations in apples, red wine, onions and

green tea. Quercetin possesses powerful antioxidant and anti-inflammatory properties

- * **Biotherapy Calcium:** may reduce occasional acute heartburn

- * **Biotherapy Sublingual B12:** restores deficiency of this vitamin that often occurs in GERD

- * **Deglycyrrhizinated licorice (DGL):** is commonly referred to by the acronym DGL and is a soothing agent that eases heartburn. It has typically been used in the treatment of gastric and duodenal ulcers for a long time

- * **Sunshine D** is a nutritional supplement of vitamin D3- cholecalciferol. Deficiency of vitamin D is common in people with exocrine pancreatic deficiency

- * **Zinc Carnosine:** PepZin GI may decrease inflammation of gastric mucosa and inhibit growth of H. Pylori

Herbal Remedies for GERD include the following:

Biotherapy Cleanse and Purify: may improve digestion, promote the elimination of toxins and inhibit the growth of Candida-yeast

Biotherapy Damp Water: promotes the elimination of toxins and suppresses the growth of Candida-yeast

Chamomile, Fennel, Licorice, St John's Wort, Pau D'Arco: herbal teas smooth digestion, have anti-inflammatory and antiseptic properties and can normalize the function of the smooth muscle valves

- Acupuncture

Even though the mechanism of acupuncture curative actions on the gastroesophageal reflux is not entirely understood, acupuncture practically relieves the symptoms. Therefore, acupuncture may be included in the treatment of GERD.

The acupuncture remedies for GERD include: Zhongwan (Ren 12), Jique (Ren 14), Jiuwei (Ren 15), Burong (S 19), Zusanli (S 36), Gongsun (Sp 4) and Neiguan (P 6), Qimen (Liv 14), Houxi (SI 3) and Shenmai (B 62).

Some studies were done to confirm possible actions of acupuncture on the LES. Proper function of this muscle valve stands as a potential way to keep stomach acids in their place. For example, according to the study of doctors from Royal Adelaide Hospital, Australia, electro acupuncture at the Neiguan (P 6) improves the function of LES.[226]

According to Toku Takahash MD, PhD from the Department of Surgery, Duke University Medical Center, Durham NC, U.S., “it is conceivable that acupuncture may be effective in patients with functional GI disorders because it has been shown to alter acid secretion, GI motility and visceral pain. Acupuncture at CV-12 may inhibit gastric acid secretion via the somatosympathetic pathway. Thus, acupuncture may be beneficial to GERD patients”.[200]

- **Therapeutic Exercises:** more information may be found in the *Chapter 37-Therapeutic Exercises*.

- **Lifestyle Changes**

Changing certain habits can relieve or avoid symptoms of GERD such as:

- > Diet changes
- > Limitation of alcohol, smoking, some medications, and NSAID
- > Upper body elevation at night may provide remarkable relief for individuals with GERD. Gravity may help keep stomach contents outside the esophagus. Elevate the head section of your bed frame or the mattress at least 6 inches by using bricks, wood blocks, telephone books, etc

> Avoid tight-fitting clothing, especially at night. To help reduce excessive pressure on the stomach, avoid clothes with tight belts, waistbands, or pantyhose

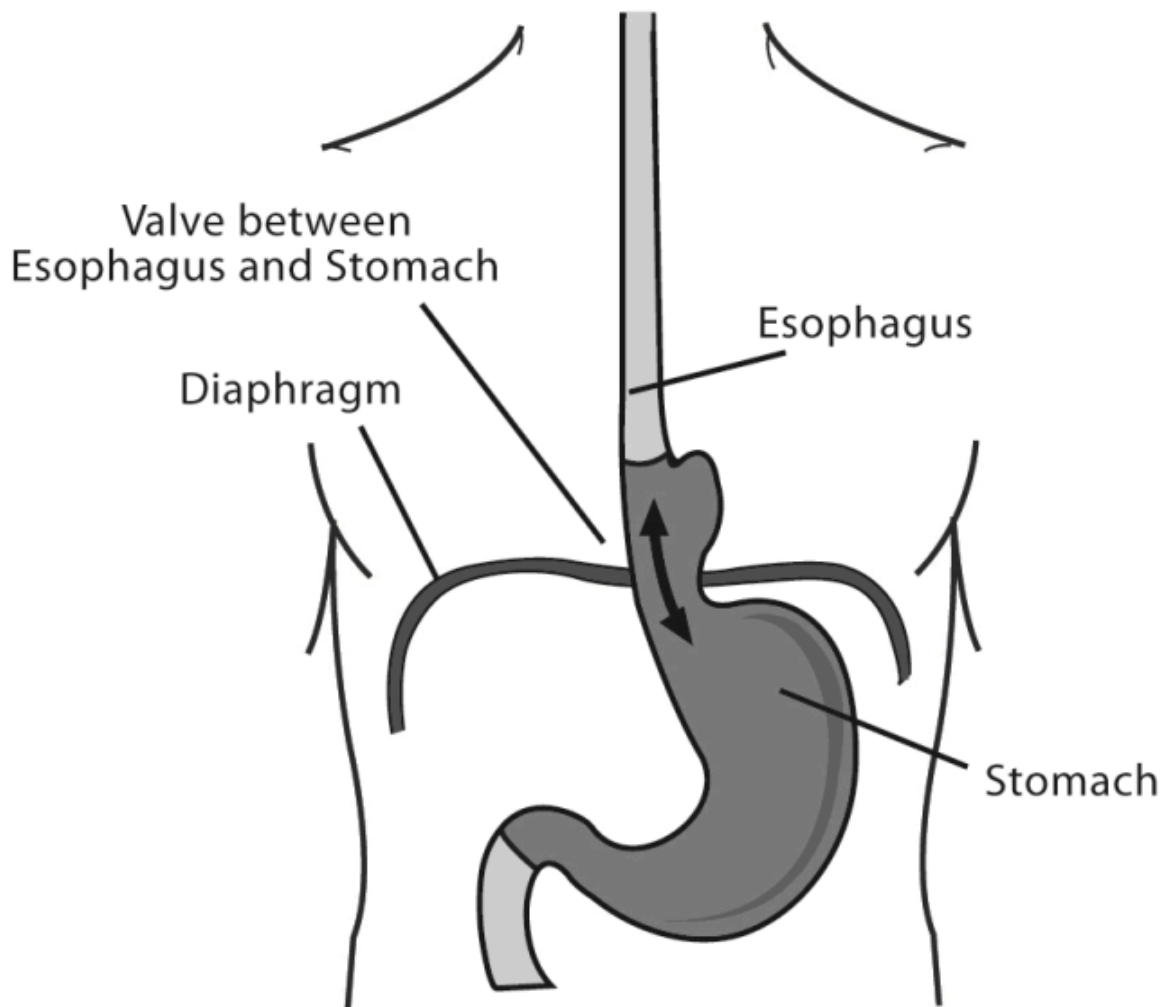
c. Hiatal Hernia

For individuals with a medical background

A hiatal hernia may often contribute to GERD due to mechanical problems in the function of LES. LES is a special muscle valve that remains closed most of the time, and only opens to allow swallowed food and liquid to be swept through into the stomach. Patients with a hiatal hernia may have LES relaxation episodes particularly at nighttime, which can lead to night heartburn or regurgitation.

A hiatal hernia occurs when a portion of the stomach pushes through the diaphragmatic esophageal opening (hiatus) into the thoracic cavity. The opening in the diaphragm, where the esophagus connects with the stomach, acts as an additional sphincter not to let the stomach content to move back into the esophagus. The presence of a hiatal hernia may break this anti reflux barrier.

Sliding Hiatal Hernia



Hiatal hernias are common in Western countries. The frequency of a hiatal hernia increases with age, from 10% in patients younger than 40 years to 70% in patients older than 70 years.

<http://emedicine.medscape.com/article/178393-overview>

Many people do not have any symptoms of their hiatal hernias. However, 50% of individuals with a hiatal hernia may experience heartburn, regurgitation (backflow of aggressive stomach contents into the throat), sour or bitter taste in the mouth, chest pain in the breastbone, etc.

Possible factors, which promote hiatal hernia, are high pressure inside the abdominal cavity usually connected with poor digestion, lifestyles, a weak diaphragm muscle and a diaphragm strain.

Common Reasons for Developing Hiatal Hernias and Gastro-Esophageal Reflux Disease (GERD)

High Pressure inside the Abdominal Cavity:

- Overeating
- Gas, bloating
- Constipation
- Obesity
- Persistent cough, vomiting
- Pregnancy
- Abdominal tumors
- Poor sitting posture
- Tight-fitting clothing
- Fluid in the abdomen – ascites

Weak Diaphragm Muscle:

- Sedentary lifestyle
- Age connected muscle weakness
- Dehydration
- Nutritional deficiencies

Diaphragm Strain:

Abdominal trauma
Heavy lifting
Sports

Prevalence of a hiatal hernia requires not only symptomatic treatment of heartburn, but, focus on the underlying lifestyle factors and mechanism of the development of this condition. Millions of people suffer from a sliding hiatal hernia, the most common type of hiatal hernia. In a sliding hiatal hernia, the stomach and the portion of the esophagus that joins the stomach slide up into the chest through the opening in the diaphragm.

Non-Surgical Healing of the Sliding Hiatal Hernia

A painless procedure can be employed to slide these herniated tissues back to the abdomen by using gravity and the healing power of Karlovy Vary Healing Mineral Water. Drinking 6 cups of this water on an empty stomach and walking downstairs for 15 – 20 minutes may be a safe and effective procedure for the individual with a sliding hiatal hernia.

It is the experience of the authors, that ear lobe acupuncture may improve the positive result: decreasing heartburn and upper abdominal cramps. Visceral chiropractic manipulations and abdominal massage may also drop the herniated stomach back to its usual place.

Currently, all people with heartburn are advised to suppress the stomach acidity to relieve the symptom and prevent possible esophageal cancer. It sounds correct, but let's look at the facts and statistics.

By the report of Everhart JE (2008) "*The burden of digestive diseases in the United States*", U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: US Government

Printing Office, 2008; NIH Publication No. 09-6443 [109], incidence of the GERD grows over a 25-year span.

This official statistic shows growth of GERD in the U.S., especially in the last decade. More than 60 million Americans suppress their gastric acidity to avoid Esophageal Cancer. However, this cancer grows, as well.

Source: National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) (averages 1992–1993, 1994–1996, 1997–1999, 2000–2002, 2003–2005), and National Hospital Discharge Survey (NHDS) [109]

To summarize, something is wrong in this situation and more research is necessary for etiology, pathogenesis, and treatment of GERD. It needs time. Nevertheless, the practical, safe, and effective recommendation from this section may help open-minded individuals just now.

Interesting facts at a glance:

Almost 40-50% of all adults in the U.S. report having some symptoms of gastroesophageal reflux disease (GERD)

GERD is a condition, in which a backflow of stomach content enters the esophagus

Lower Esophageal Sphincter (LES) holds back the stomach contents and protects the esophagus

Gastric hydrochloric acid normally stimulates spasms or locks the LES

Deficiencies of some minerals and vitamins also lead to failure of the sphincter muscle to close properly

The LES relaxes at inappropriate times if the pressure inside the stomach is high after a large dinner, lying down after large meals, wearing tight clothing, improper food combining with fermentation and gas, etc

Candida-yeast overgrowth leads to extensive fermentation in the stomach, and inflammation in the esophagus; therefore, promoting

GERD

Some reasons for heartburn are low function of the pancreas and acidic “aggressive” bile. Acidic changing in the bile leads to deconjugation and precipitation of bile acids. Insoluble bile acids are extremely “aggressive” chemical substances that make acidic bile irritable

Acidic bile may lead to bile-pancreatic reflux, spasms of the Sphincter of Oddi, duodenal ulcers, duodenitis, irritation of the pyloric sphincter, stomach ulcers, duodenogastro-oesophageal reflux (DGOR) or bile/trypsin reflux into the stomach and esophagus

A corroded mixture of activated pancreatic enzymes and acidic “aggressive” bile due to bile/pancreatic/gastric reflux, travels up into the stomach irritating the duodenum, stomach mucosa and esophagus, causing inflammation and ulcers

Currently, there is strong evidence that bile reflux combined with acid reflux is more harmful to the esophagus than acid reflux alone

Opposite to common opinion that only high gastric acidity causes the GERD, the main factors in developing this condition could be bile/pancreatic reflux, metabolic acidosis and intestinal dysbiosis

Suppressed stomach acid production influences digestion in the stomach and consequently in the small intestine because it also suppresses alkaline pancreatic secretion

Stomach acid is a natural antiseptic that kills many unwanted invaders that enter the body with food and water

There is evidence that GERD has a direct connection with other functional diseases such as functional dyspepsia and IBS, so it is presumed to have the same causative factors

The main way to relieve the symptoms of GERD is by a healing diet and avoiding foods that trigger heartburn

The holistic protocol for GERD includes basic actions such as a healing diet, KVHMW, cleansing with restoration of friendly intestinal flora, colon hydrotherapy, and also nutritional supplementation, acupuncture, herbal medicine and lifestyle changes

A hiatal hernia may often contribute to GERD due to mechanical problems in LES function

50% of individuals with a hiatal hernia may experience heartburn, regurgitation (backflow of irritating stomach contents into the throat), sour or bitter taste in the mouth, chest pain in the breastbone, etc

High pressure inside the abdominal cavity, a weak diaphragm muscle or straining the diaphragm muscle can create a hiatal hernia

Nonsurgical healing of the sliding hiatal hernia may include drinking KVHMW, ear lobe acupuncture, visceral chiropractic manipulations, and abdominal massage

d. Sphincter of Oddi Dysfunction Type III

For individuals with a medical background

Sphincter of Oddi dysfunction (SOD) is a syndrome of chronic biliary pain attacks due to functional obstruction of pancreatic - biliary secretions at the level of the Sphincter of Oddi. More information may be found in the *Chapter 8-Pancreas and the Sphincter of Oddi Dysfunction (SOD)*.

Drossman, DA *et al.* (1993) indicate that the incidence of the Sphincter of Oddi Dysfunction (SOD) in the general population is 1.5%. Thus, approximately 4.5 million people in the U.S. may have SOD. This statistic doesn't include children with biliary dyskinesia. [203] If this condition is not properly treated, functional changes lead to structural damages of the gallbladder, liver, duodenum and eventually, the pancreas.

SOD is seen in 1% of patients after a cholecystectomy, but in 14-23% of patients with the post-cholecystectomy syndrome (biliary pain with elevated liver enzymes).[233] For example, statistics show that after having their gallbladder removed, almost 20% of people have some degree of Sphincter of Oddi Dysfunction. Therefore, 20% of the pain following surgery to remove a gallbladder may be connected to SOD.[4]

According to John Baillie, (2005) from the Department of Medicine, Division of Gastroenterology, Duke University Medical Center, Durham, North Carolina, “Sphincter of Oddi dysfunction (SOD) may be the most misunderstood and abused diagnosis in gastroenterology”.[234]

In the *acidic pancreas and bile* stage, the frequent causes of SOD are biochemical and biomechanical changes in the bile content (acidification) and bile elimination. Acidic bile is extremely “aggressive”; it irritates and corrodes the surrounding tissues causing spasms, pain, ulcers and pancreatitis. Acidic, “aggressive,” toxic bile can also irritate the Sphincter of Oddi leading to dyskinesia and spasms, and thereby increasing pressure inside the pancreatic duct.

Holistic Protocol for the Sphincter of Oddi Dysfunction Type III

The healing program of the Sphincter of Oddi Dysfunction type III includes the basic actions:

◁ **Healing Diet**

◁ **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◁ **European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy**

◁ **Anti-Candida Anti Parasite Program**

For individuals lacking a medical background

These aforementioned steps are also beneficial for healing parasite infections. Having parasites is a frequently denied idea by parents,

patients and doctors. However, it is estimated that 60-90% of the population is contaminated with worms, one-celled parasites, yeast or fungus. People host more than 130 varieties of parasites, ranging from micro organisms to foot-long worms. They are often undetectable in stool samples because 70% of the parasites reside in the liver, bile ducts, upper intestinal tract, muscles and other organs and systems, and do not reach the colon for stool release. The chronic intermittent pain in the right upper quadrant of the abdomen, especially in children, may be caused by intestinal parasites such as *Giardia* or flukes.

Parasites thrive in ... acidity! They love to live in their own waste. They also prefer the low oxygen levels that come with acidity. Besides that, the waste products they make are strong acids themselves. To restore the slightly alkaline condition, it will be extremely beneficial to drink Karlovy Vary Healing Mineral Water prepared from genuine Karlovy Vary thermal spring salt. Besides alkalizing the bile and pancreatic juice, this healing mineral water promotes the production of liquid bile and simplifies its elimination. This water has anti-parasitic actions and helps to remove the unwanted invaders from the gastrointestinal tract. Europeans have used the water in this way for hundreds of years.

Healing liver/gallbladder flush with Karlovy Vary mineral water

For individuals with a medical background

3-4 liters of mixed pancreatic juice and bile come through the Sphincter of Oddi daily. Acidification of these fluids makes them extremely “aggressive,” corroding and irritating for surrounding tissues, particularly the Sphincter of Oddi. Putting into account that bile is a vehicle for removing toxic chemicals such as bile pigments, heavy metals, drugs, medications, poisons, etc. from the body, and that bile ducts and the gallbladder often harbor parasites, there

is no doubt that the Sphincter of Oddi is an easy target for irritation. Alcohol, unhealthy foods, irregular eating, and improper food combinations cause disruption in the normal functioning of the Sphincter of Oddi, as well.

To alleviate these serious problems causing SOD, it is necessary for:

- > The liver to produce a large amount of liquid alkaline bile (cholagogue action)
- > The pancreas to produce a large amount of liquid alkaline pancreatic juice
- > Gentle gallbladder's contractions to release the sticky bile (choleretic action)
- > The Sphincter of Oddi to drain these secretions into the small intestine
- > All these actions to occur simultaneously

There is a procedure that can accomplish these tasks simultaneously; it is called the liver/gallbladder flush with Karlovy Vary Healing Mineral Water.

Hundred years ago, in Europe had developed a method of treating many gastrointestinal disorders by swallowing a small tube and then moving it into the duodenum. After that, the duodenum was flushed with mineral water. Many studies that used the contents from the duodenum confirmed that mineral water opened the Sphincter of Oddi with extensive drainage of liver and gallbladder bile. Later, many European healing mineral spas proved that even drinking a warm solution of the healing mineral water caused the same action.

The most studies that showed the positive outcomes of the cleansing and beneficial effects of this flush in different liver and gallbladder diseases was conducted on Karlovy Vary Healing Mineral Water. European doctors found

the positive actions of this procedure in almost all chronic digestive disorders and diseases.

This procedure is painless and can be performed at home in the morning on an empty stomach with healing mineral water prepared from genuine Karlovy Vary spring salt. Make 1 liter (4 cups) mineral 0.5% warm solution like warm tea. Lay down on the bed on the right side with half-bent knees while applying heat (heating pad or bottle with hot water) on the liver area. Don't over heat to avoid burning yourself! Slowly drink the entire warm, healing mineral water solution in one hour. Be calm; listen to soothing music, relax, etc. You may experience some gurgling or mild moving in your stomach. If you feel urges for bowel movement, you can go to the restroom and then continue the procedure. It is advisable to apply a light, clockwise, abdominal self-massage.

After the liver/gallbladder flush with Karlovy Vary Healing Mineral Water, people usually feel more energetic. Many chronic digestive symptoms are alleviated, and this improvement may be confirmed by medical tests, as well.

The liver/gallbladder flush with Karlovy Vary Healing Mineral Water may be performed at once a week for two months and may be performed at the time of an acupuncture session. It is advisable to drink 2 large cups of strong rosehip and chamomile herbal tea 1-2 days before the procedure.

The liver/gallbladder flush with Karlovy Vary Healing Mineral Water generally is exceptionally safe and tolerable in chronic conditions. However, performing that, it is necessary to remember that this procedure is contraindicated in the exacerbation of any disease and has to be performed by supervision of the knowledgeable health provider.

A few very helpful actions have to be done specifically to relieve chronic Sphincter of Oddi.

Dysfunction. They include:

1. Cholagogue actions to promote the flow of bile
2. Choloretic actions to support the bile production by the liver and its excretion
3. Anti-parasitic actions
4. Analgesic actions to help reduce abdominal cramps or pains

Holistic Protocol for Sphincter of Oddi Dysfunction Type III

Nutritional and Herbal Supplements - Cholagogue - Choloretic - Anti-Parasitic -Analgesic

Berberine Complex ----- OK -----
OK

Biotherapy Cellular

Magnesium-Potassium ----- OK -----
----- OK

Biotherapy Cleanse and Purify ----- OK ----- OK -----
OK

Biotherapy Damp Water ----- OK ----- OK -----
OK

Biotherapy Digestive Enzymes ----- OK -----
OK ----- OK

Biotherapy Lower Bowels Formula ----- OK -----
OK

Biotherapy Pancreatic Herbal Formula ---- OK ----- OK -----
OK ----- OK

Biotherapy Yin Formula. ----- OK ----- OK -----
OK ----- OK

Karlovy Vary Healing Mineral Water ---- OK ----- OK -----
OK ----- OK

Mentharyl ----- OK ----- OK -----
OK ----- OK

Para-Gard -----
OK

Probiotics-----
OK

Turmeric Max V ----- OK -----
OK ----- OK

Yeast Formula ----- OK -----
OK

Chamomile Herbal Tea ----- OK -----
OK ----- OK

Fennel Herbal Tea ----- OK ----- OK -----
OK ----- OK

Shave Grass Herbal Tea ----- OK

Ginger Herbal Tea ----- OK ----- OK -----
OK ----- OK

Licorice Herbal Tea ----- OK -----
OK ----- OK

Pau D'Arco Herbal Tea -----
OK

Peppermint Herbal Tea ----- OK ----- OK -----
OK ----- OK

St. John's Wort Herbal Tea ----- OK ----- OK -----
OK ----- OK

Acupuncture, Electro Acupuncture ----- OK ----- OK -----
OK ----- OK

Chiropractic Manipulations,

Visceral Massage ----- OK -----
----- OK

Massage, Point Massage----- OK -----
----- OK

Relaxation, Meditation, Hypnosis,

Custom Hypnosis CDs-----
----- OK

All these nutritional supplements, herbs or nondrug healing techniques have an evidence-based history, scientific research and many years of the authors' positive clinical experience of using them for biliary dyskinesia and SOD with upper right abdominal spasms, pains and liver/gallbladder parasites.

Some specialists have a different view in the causes and treatment of SOD. Progress of conventional medicine offers many new, sometimes risky techniques for the treatment of SOD. There is no comprehensive follow-up study about the effectiveness of these techniques. Therefore, in his article "*Sphincter of Oddi Dysfunction: Overdue for an Overhaul*", John Baillie from the Division of Gastroenterology, Duke University Medical Center, Durham, North Carolina (2005) asks "Sphincter of Oddi Dysfunction: Rosetta Stone or Pandora's Box?"[234]

The Sphincter of Oddi is the key and strategic gate for upper gastrointestinal tract health and evidently, for normal pancreatic functions. The treatment of SOD needs to be safe for the pancreas, effective in the long run and requires a serious effort from patients themselves.

Interesting facts at a glance:

The Sphincter of Oddi is the key and strategic gate for upper gastrointestinal tract health and obviously, for normal pancreatic function

Sphincter of Oddi dysfunction (SOD) is a syndrome of chronic biliary pain attacks due to functional obstruction of pancreatic - biliary secretions

SOD in the general population is 1.5%, therefore, approximately 4.5 million people in the U.S. may have SOD

After having their gallbladder removed, almost 20% of people have some degree of SOD

Acidic, “aggressive,” toxic bile can irritate the Sphincter of Oddi, leading to dyskinesia, spasms, and thereby increasing pressure in the pancreatic duct

The holistic protocol for Sphincter of Oddi Dysfunction type III should include basic actions (Healing Diet, Drinking healing mineral water prepared from genuine Karlovy Vary spring salt, European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy, Anti-Candida Program), and herbs, hypnosis, nutritional supplements, acupuncture, visceral massage, eliminating parasites etc

Liver/gallbladder flush with Karlovy Vary Healing Mineral Water has hundreds of years of using in Europe for painless cleansing liver and gallbladder system from sludge, small stones, toxins, parasites, and congestion

Chapter 46-Healing Program for *Pancreatic Deficiency* Stage

For individuals with a medical background

Possible diseases and conditions associated with *pancreatic deficiency*: clinical or subclinical episodes of acute pancreatitis, chronic pancreatitis, gastric ulcers, duodenal ulcers, duodenitis, Sphincter of Oddi Dysfunction type II or III, gallbladder disorders (inflammation, stones, sludge, parasites), conditions after gallbladder removal and some surgeries on the upper GI tract, considerable intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth), intestinal parasites, IBD (Crohn's Disease, Ulcerative Colitis), Celiac Diseases, Cystic Fibrosis (early stage), Diabetes, alcohol abuse, some acute and/or chronic poisoning, etc.

In almost all these diseases, there is constant pancreas involvement that results in structural damage and diminished function including different severities of chronic pancreatitis

a. Chronic Pancreatitis

The healing course of chronic pancreatitis in the *pancreatic deficiency* stage of exocrine pancreatic deficiency includes the basics:

◁ **Healing Diet**

◁ **Drinking healing mineral water prepared from genuine Karlovy Vary spring salt**

◁ European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy

◁ Anti-Candida Program

These healing courses are fundamental to stop the underlying processes and achieve remission.

3 critical, clinical problems have to be solved to help the individual with chronic pancreatitis. All these 3 troubles require expertise, knowledge and experience in different fields of medicine and have to be treated simultaneously.

* **The first problem** is persistent inflammation and destruction of the pancreas with development of fibrosis and scars, which in turn, lead to decreasing of functional pancreatic tissue and exocrine and endocrine pancreatic deficiencies. This process leads to maldigestion and malabsorption with multiple gastrointestinal complaints.

* **The second problem** is an annoying, sometimes debilitating pain. Hence, the large numbers of individuals with chronic pancreatitis have dependencies to painkillers, especially opiates and psycho drugs. Some sufferers from chronic pancreatitis are also alcohol addicts.

* **The third problem** is that almost all individuals in the *pancreatic deficiency* stage suffer from significant intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth) usually after numerous courses of broad-spectrum antibiotics and low exocrine pancreatic function.

1. Persistent inflammation and destruction of the pancreas with development of fibrosis and scars.

Inflammation (Latin, *inflammare*, to set on fire) is the complex biological response of cells or tissues to damaging stimuli through disease or injury. Inflammation is a protective attempt by the organism to eliminate the harmful stimuli and to initiate the healing process. Inflammation is associated with long known specific signs such as redness, heat, pain, swelling and loss of function of the tissue or organ. Inflammation is essential for the survival of the organism. However, the chronic inflammation can create a negative, opposite effect by leading to simultaneous replacement of functional tissue by scarring (fibrosis) and destruction of the organ.

Regarding chronic pancreatitis, constant damages of acinar and ducts cells change the structure of the pancreatic tissue, making it vulnerable to more damages and making a vicious circle.

Provocative factor => Injury (by own digestive enzymes) => Inflammation => Structural Changes => Predispose for more damage => More injury (by own digestive enzymes)

In chronic pancreatitis, inflammation as a survival defense process over time can become the opposite damaging process with severe structural changes and functional tissue loss. Therefore, controlling the chronic inflammation is an extraordinarily important healing task.

The healing actions in chronic pancreatitis have to focus both on provocative factors and on chronic inflammation simultaneously

To decrease continued inflammation and destruction of pancreatic tissue, attention must be focused on the primary reasons that trigger inflammation and pancreatic tissue damage. Without normalizing the biochemistry and proper elimination of pancreatic juice and bile by utilizing the basic healing program described on the previous page, other actions may have just palliative symptomatic actions.

There are nondrug approaches to decrease inflammation and possible infections. They include the following:

- Botanicals

Licorice, Ginger, Turmeric, Fennel, Chamomile, St. John's Wort, Rose Hips, Shave Grass and Peppermint have been widely used all over the globe to ease the gastrointestinal symptoms. All these herbs have a strong scientific and evidence based research and they are considered safe in the U.S.

St. John's Wort as a herb or herbal tea is a great player on the herbal pancreatic healing team. It has been used for hundreds of years, to treat chronic indigestion in Europe with many medical articles and books supporting its actions. For example, Italian researchers Genovese T. *et al.* (2006) found that St. John's Wort reduced the development of acute pancreatitis and significantly reduced the mortality rate at 5 days after acute pancreatitis in animals.[235]

For individuals with digestive (pancreatic) disorders, the Biotherapy uses 4 unique herbal formulas designed decades ago by author Peter Melamed, Ph.D. These formulas have been manufactured in the U.S. with the quality, quantity and toxic control of ingredients for more than 10 years: **Biotherapy Yin Formula, Biotherapy Cleanse and Purify, Biotherapy Damp Water and Biotherapy Lower Bowels Formula.**

More than 50 herbs that are included in these formulas are considered safe in the U.S. Special combinations and special proportions of the herbs, help design these herbal formulations to heal different aspects of the *pancreatic deficiency* stage.

Biotherapy Pancreatic Herbal Formula is a special blend of herbs to prepare for decoction in the thermos at home. All these herbs have a long

history of being used for many digestive disorders such as gas, abdominal distention and pain, indigestion, chronic diarrhea, parasites, etc.

They are generally culinary herbs or spices and have been used by humans for thousand years. These spices have a long history because they, first, improve the taste of food; second, they help to digest this food without gas, abdominal distention, nausea, stomach pains, diarrhea or constipation; and third, they help people avoid food poisoning and infection-causing bacteria and parasites.

These herbs are carminative; they stimulate the digestive system to work. They promote the secretion of digestive glands such as the pancreas to produce pancreatic juice with digestive enzymes, the liver to produce bile, and also the stomach and bowels to secrete their juices.

All these herbs have anti-inflammatory properties. As culinary herbs, millions of people in the world have used them for a long time. These plants proved their safety and effectiveness by not having side effects or toxicity.

The authors focus only on Biotherapy's herbal formulas because of the practical experience in using them. World botanical medicine has hundreds of herbs and herbal formulas that are used in varieties of GI disorders including pancreatitis. The scope of this book does not allow for discussing all these botanicals. However, many researchers and doctors consider that herbal medicine for treating pancreatic disorders is a perspective direction.

More information may be found in the *Chapter 35-Herbal Remedies for Exocrine Pancreatic Deficiency*.

- Bioflavonoids

Bioflavonoids (originally referred to as *vitamin P*) are polyphenolic substances that are present in plants, seeds, fruit skin or peels, bark and flowers. A great number of botanical medicines contain bioflavonoids.

Bioflavonoids are beneficial for human health. Like vitamins and minerals, these compounds are not produced by the body and must be supplied either through the diet, or as nutritional supplements. The most scientific studies are related to Quercetin, which has been reported by several authors as having antibacterial, anti-inflammatory and antiallergic actions.

- Vitamins

Without doubt, vitamins C, B-1, B-2, B-5, B-6 and B-12 have excellent scientific research supporting their anti-inflammatory properties. Unfortunately, most of the Western population has deficiencies or low levels of these water-soluble vitamins because of their absence in processed foods. Because the human being does not have storage capabilities of water-soluble vitamins, the body must be constantly supplied with them.

Due to maldigestion, most individuals with chronic pancreatitis suffer from deficiencies of fat-soluble vitamins (A, D, E, and K), as well.

The Recommended Dietary Allowance or RDA doses of vitamins are required to prevent severe vitamin deficiency diseases such as rickets, scurvy, beriberi, pellagra, etc., but these doses are extremely low to show anti-inflammatory properties in the case of chronic pancreatitis. The knowledgeable health provider can customize doses of the vitamins to the particular health condition.

- Enzymes

Enzyme therapy for treatment has been utilized by many researchers, doctors and health professionals for the last 40-50 years, especially in Europe. Enzyme replacement therapy is widely used for malabsorption syndrome in the final stage of chronic pancreatitis that we call *pancreatic failure*. However, enzymes (proteolytic enzymes) may also be particularly useful in the *pancreatic deficiency* stage of chronic pancreatitis.

Supplementation with enzymes may suppress inflammation and development of scar tissue inside the pancreas (fibrosis), thus, diminishing the constant damage and destruction of pancreatic tissue. Proteolytic enzymes can lessen inflammation by reducing the immune response and by proper digestion of the proteins. Improving the digestion of protein, in its turn, decreases the amount of large undigested particles, which may leak through the intestinal wall into the bloodstream. This can cause immune reactions such as allergies, food sensitivities and, in the worse case scenario, autoimmune diseases.

The “diet without natural enzymes” of modern populations leads to enormous exertion on exocrine pancreatic function and makes the pancreas overwork to digest processed food. Together with consuming adequate levels of unprocessed foods with natural enzymes, supplementation with enzymes can alleviate this overwork of the pancreas. Enzymes are derived from the animal sources (desiccated pancreas) or nonanimal sources such as plants (bromelain, papain, etc.) and from microorganisms. More information may be found in the *Chapter 44-Enzymes for Pancreatic (Digestive) Disorders*.

- MSM

MSM (Methyl-sulfonyl-methane) is an organic sulfur compound naturally occurring in the blood and body's tissues and found in most foods. Sulfur is the fourth most abundant mineral in human tissue and essential to the normal function and structure of the body. Sulfur is necessary for manufacturing collagen, the key ingredient of cartilage and connective tissue. Sulfur is vital to the proper work of vitamins, enzymes, hormones and antibodies in our body. Sulfur promotes the liver's detoxification process and also normalizes the metabolism of carbohydrates. MSM has anti-inflammatory qualities in the body that impact inflammatory signs such as edema, redness, heat and pain. MSM offers a natural way to reduce inflammation and pain.

MSM can be particularly useful for the individual with chronic pancreatitis because it can:

- > Soften and dissolve scar tissue (fibrosis)
- > Dilate blood vessels to boost blood supply (more blood equates to more oxygen and nutrients to repair body damages)
- > Reduce muscle spasms of sphincters
- > Repair cellular damage
- > Promote the body's detoxifying process
- > Decrease the amount of Candida and parasites such as *Giardia lamblia*
- > Inhibit the pain nerve impulses along nerve fibers

The scientific data of MSM may be found in the book "*The Miracle of MSM: The Natural Solution for Pain*" by Stanley W, Jacobs, MD, Ronald M. Lawrence, MD, Ph.D., and Martin Zucker.[237]

- Acupuncture

Modern research has shown that the insertion of acupuncture needles to specific points in the body can suppress inflammation and immune responses. More information may be found in the *Chapter 34-Acupuncture and Pancreatic Disorders*.

2. Persistent, debilitating pain in chronic pancreatitis

The second problem of chronic pancreatitis is constant, debilitating pain. More information about this matter may be found in the *Chapter 41-A Non-drug Approach for Abdominal Pain*.

Only severe debilitated pain may push the middle aged, alcohol addict to seek medical care. Most individuals with chronic pancreatitis are reluctant to any lifestyle changes and insist only on pain management. The main goal of the doctor is to reduce the patient's pain. Thus, there is a large number of individuals with chronic pancreatitis that are dependent to painkillers, especially opiates, and psycho drugs even if they stop drinking alcohol.

In case of chronic pancreatitis, there typically is a dilemma: is the pain caused by pancreatitis or is the pain caused by the withdrawal of prescribed or non-prescribed opioids?

In the *pancreatic deficiency* stage of chronic pancreatitis, pain changes during the day, depending upon the time and type of food consumption. Pain localizes usually in the upper abdomen and may radiate to the back.

Constantly taking opioids for more than a month, pain exacerbation after 4-6 hours following the last dose of opioids, increasing doses of medication, bone pains, muscle aches, sleeplessness, restlessness, tremors, shivering 4-6 hours after taking the opioids and certainly, craving for the medication may help to verify the drug abuse.

Withdrawal from opioid painkillers is possible in the agreeable patients, and it is similar to alcohol withdrawal. More information may be found in the *Chapter 40-Biotherapy Outpatient Program for Alcohol Cessation*.

3. Intestinal Dysbiosis

Almost all individuals in the *pancreatic deficiency* stage of chronic pancreatitis suffer from severe intestinal dysbiosis with Candida-yeast overgrowth and Small Intestine Bacterial Overgrowth. They all underwent countless courses of antibiotics and drugs. Many of them have severe metabolic acidosis and exocrine pancreatic deficiency, and a positive number of them are alcohol addicts. There is no wonder that they have problems with intestinal ecology.

The simple way to “find and destroy” by using antifungal drugs may only have a temporary effect because severe intestinal dysbiosis is an extremely complicated problem without a cure. “Eradication of Candida” is generally impossible because there are constant re-infection and conditions for intensive breeding support growth of the opportunistic infections. Only restoration of the natural balance between friendly intestinal flora and the opportunistic infections can lead to remission. It requires multiple medical tasks and involvement of the patient.

The Biotherapy anti-Candida program consists of a few components including the various complimentary approaches:

1. **Starving and killing the Candida:** colon hydrotherapy, anti-Candida diet, herbs, supplements, enzymes
2. **Evacuating the dead Candida and toxins from the body:** colon hydrotherapy, KVHMW, herbs, therapeutic exercises
3. **Restoring friendly intestinal flora:** anti-Candida diet, probiotics (from reputable manufacturers), KVHMW
4. **Relieving stress:** acupuncture, supplements, diet, herbs, hypnosis
5. **Enhancing the immune system:** probiotics, acupuncture, supplements, diet, herbs
6. **Restoring proper digestion and replacing missing nutrients:** anti-Candida diet, probiotics, KVHMW, supplements, herbs

More information about the healing approaches of intestinal dysbiosis with exocrine *pancreatic deficiency* may be found in the *Chapter 42-Anti-Candida Program*.

Interesting facts at a glance:

In almost all diseases associated with *pancreatic deficiency* stage, there are different severities of chronic pancreatitis

Chronic pancreas involvement results in structural damage and poor function of this gland

In chronic pancreatitis, there are 3 common problems such as chronic inflammation with decreasing pancreatic function, pain syndrome and intestinal dysbiosis

The goal of healing is to stop the underlying processes and achieve remission

There are numbers of the nondrug approaches, which can be beneficially for persons with *pancreatic deficiency* stage

Chapter 47-Healing Program for *Pancreatic Failure* Stage

For individuals lacking a medical background

This book is dedicated on how to delay and avoid this life-threatening malady. *Pancreatic failure* is the condition that in all medical books now is referred to as chronic pancreatitis.

Chronic pancreatitis starts from the first attack of pancreatitis. If a patient was in the hospital and his/her doctor confirmed inflammation and damage of the pancreas, the first punch to the pancreas has already landed. From that time on, the health and destiny of the patient depends upon the appropriate lifestyle and treatment. Unfortunately, most of these attacks are mild and may become entangled with exacerbation of IBS or dyspepsia, “stomach flu,” “food poisoning,” “acute gastritis after alcohol consumption,” “reflux,” etc.

It is known that the pancreas manufactures very powerful digestive enzymes that separate the food into ultra small particles that can travel through the gut wall. The pancreas has many complex mechanisms to keep these digestive enzymes nonactive inside this vital organ. Throughout this book, you have read that acidity, alcohol, toxic substances and congested, acidic “aggressive” bile can destroy these protective mechanisms. Then, the digestive enzymes begin to digest their own pancreatic tissue causing inflammation of the pancreas (pancreatitis).

Acute pancreatitis may be compared with a sad example, such as a Japanese nuclear plant. Following an earthquake, tsunami and the failure of cooling systems at the Fukushima I Nuclear Power Plant on March 11, 2011, a meltdown (instigated by the aforementioned factors) caused the nuclear power plant to undertake a self-destruction process.

There is not another organ in the human body as pancreas that can totally destroy itself pretty fast. Acute pancreatitis is very dangerous, self-destroying condition. Doctors that are experienced in taking care of patients with acute pancreatitis know that this condition may suddenly become worse and deadly in the course of 8 -12 hours.

Can you imagine a plant such as a gasoline refinery full of explosive things? Can you imagine how the tankers disperse flammable and explosive gasoline to the customers? Very strict rules, restrictions, and serious safeguard measures prevent these dangerous, flammable substances from exploding.

The pancreas is similar to this situation because it produces highly aggressive substances as digestive enzymes; therefore, the human body has a complex 24/7 mechanism to move these enzymes in inactive forms into the small intestine. Only there, pancreatic digestive enzymes become active and split (explode) all food into small particles that can be assimilated by the human organism.

Even one mild attack of pancreatitis damages the pancreas, thereby, increasing the risk of premature activation of pancreatic enzymes inside this gland in the future. This can lead to self-digestion, self-destruction of the pancreas and subsequent chronic inflammation (pancreatitis). The problem is that pancreas has a huge, vital capacity. Therefore, symptoms such as severe indigestion with diarrhea, weight loss, and severe pain occur when only 10% of pancreatic capacity is left. All medical and popular books, websites, and articles describe this condition as chronic pancreatitis.

No, this is not chronic pancreatitis, but the final stage of chronic pancreatitis when the possibility of treatment is severely restricted.

The beginning of chronic pancreatitis is exceptionally difficult to detect by regular, everyday testing, without a real concern for the diagnosis. Therefore, many people continue the unhealthy for the pancreas lifestyle and do not take care of their health. Therefore, for many years, pancreatic tissue is continually destroyed. The pancreas has an enormous functional

capacity that allows people to digest the foods they eat until 10% of pancreatic tissue remains.

After that, when 90% of the pancreas is destroyed, and pancreatic digestive enzymes are not produced, people cannot digest food (especially food high in fat). Food causes chronic diarrhea with oily (undigested fat) stool and severe deficiencies of essential nutrients with weight loss and a lack of vitamins, minerals, trace elements and essential fatty acids, which create a myriad of symptoms from fatigue and depression to anemia and brittle bones.

The problem at this time is that the structure of the pancreas is severely damaged. Some parts of the pancreas, due to chronic inflammation, are destroyed and replaced by scar tissue. This causes pain and involves the bile duct system in the process.

An army of intelligent doctors with sophisticated equipment and virtuosic endoscopic techniques may open passages, remove the cysts and prescribe the enzymes for better digestion along with painkillers, but the situation is unusually severe at this time. It will be irresponsible to say that is the cure for *pancreatic failure*. Nevertheless, combining conventional methods of treatments with nondrug and other, so called, alternative methods, may improve the quality of life and lifespan of the individual with *pancreatic failure*.

The positive changes may be achieved only by efforts of many different professionals: medical doctors, naturopathic physicians, herbalists, chiropractors, acupuncturists, nutritionists, colon hydro therapists, massage therapists, etc, and for sure by the patients themselves and their caregivers.

Holistic Protocol for *Pancreatic Failure*

For individuals with a medical background

All chronic diseases either originate from an acute event or develop slowly without a clearly identified starting point. All chronic inflammation diseases of internal solid organs have a course, including inflammation, fibrosis resulting from tissue loss and function, and, ultimately, the final stage of the disease.

For example:

Chronic hepatitis => liver fibrosis => liver failure

Chronic myocarditis => cardiac fibrosis => heart failure

Chronic pneumonia => pneumosclerosis => respiratory (lung) failure

Chronic nephritis => nephrosclerosis => kidney failure

All stages of chronic inflammation of solid internal organs typically have diagnostic criteria, and conventional and/or alternative medicine treatment. How about the pancreas?

Descriptions of symptoms (such as pain, malabsorption syndrome and steatorrhea) of chronic pancreatitis are found in almost all medical books, textbooks and articles. Nevertheless, in many of these sources, they mention that these symptoms appear when 90% of pancreatic tissue is destroyed and

not functional. Common used in the medical literature term “Pancreatic Insufficiency” is vague and does not reflect the severity of this condition.

Something is wrong with this picture. In chronic situations, the 90% loss of pancreatic function does not happen overnight. Statistics show that it takes approximately 5-15 years from the first attack of acute pancreatitis to malabsorption syndrome and steatorrhea. The term chronic pancreatitis, in its final stage, is medically absurd. However, there are some reasons for that:

- There are many difficulties in diagnosing early stages of chronic pancreatitis
- Abnormal pancreatic function develops in most of the digestive disorders. Medical practitioners separate low pancreatic function from the improper function of the entire gastrointestinal tract
- Medical practitioners focus mainly on hollow digestive organs such as the stomach and small and large intestines, but, not on the liver or pancreas
- There is no agreement between specialists about the description, diagnosis, prevention, causes, course and methods of pathogenic treatment of early stages of chronic pancreatitis
- Different medical practitioners treat exocrine and endocrine pancreatic disorders
- There are no safe and effective methods to increase exocrine pancreatic function

Chronic pancreatitis, as it is presently described, is real pancreatic failure. The authors call this condition in their functional clinical classification as the *pancreatic failure* stage of exocrine pancreatic deficiency.

A few main reasons can initiate the disease process, including toxic or inflammation damage of the inner organs. The pancreas is an even more complicated situation than other organs because it produces very aggressive substances – proteolytic enzymes. The process of manufacturing digestive enzymes and delivering them into the duodenum is a complicated gentle mechanism to keep these substances inactive. There are no other organs such as the pancreas, which produce substances, which can cause self-damage.

Patients can be almost fully recovered from an acute episode of pneumonia, hepatitis, myocarditis and nephritis, but, not pancreatitis. Acute inflammation and even small structural changes negatively affect mechanisms that maintain pancreatic digestive enzymes in the inactive state. *The straw that broke the camel's back* - the triggers activate enzymes inside the pancreas and create various damage and inflammation. Many of these triggers were discussed earlier. However, metabolic acidosis, dysbiosis and, certainly, toxicity (alcohol) are background for the development of chronic pancreatitis.

A person with *pancreatic failure* may expose many symptoms, either dependent on the pancreas, pharmaceutical or surgical activities, and/or upon various nutritional deficiencies.

Some of these symptoms are listed below:

Symptoms ----- Possible Reasons Leading to Symptoms

Pain: inflammation, scarring, cysts, obstructions, painkiller abuse, bile reflux due to metabolic acidosis, depression, nutritional deficiencies

Chronic Diarrhea: precipitation of bile acids, SIBO, Candida, steatorrhea, malabsorption

Steatorrhea, Oily Floating Stool, Diarrhea: enzymatic deficiency (lipase), low amount of bile, inactivation of enzymes into the gut

Malabsorption Syndrome, Low Absorption and Nutrient Assimilation: enzymatic deficiencies, low amount of bile, SIBO, surgical removal of gut components, radiation, inflammation (duodenitis, IBD), heredity, gluten enteropathy, short bowel syndrome, food sensitivity, leaky gut syndrome

Anemia: low gastric acidity, deficiency of iron, folic acid, B-12, vitamins C, D, K, B's, protein

Constipation: low bile, low magnesium, dehydration, opioids, some medications

Depression: pain, nutritional deficiencies, low thyroid, B-12 deficiency

Diabetes: low endocrine pancreatic tissue, metabolic acidosis, insulin resistance

Dryness: dehydration, diarrhea, low thyroid, vitamin A deficiency

Edema: albumin deficiency, low thyroid, low kidney function, lectins

Fatigue: malabsorption, anemia, nutritional deficiencies, low thyroid, SIBO

Gas, Bloating: SIBO, Candida-yeast overgrowth, enzymatic deficiencies

Jaundice: hepatitis, cirrhosis, stopping of proper bile flow

Weight Loss: malabsorption syndrome, low assimilation of food, enzymatic deficiencies

Muscular Cramps: low magnesium, calcium

Osteoporosis, Osteopenia: vitamin D, C, magnesium, trace element deficiencies

Peripheral Neuropathy: diabetes, nutritional deficiencies, anemia, enzymatic deficiencies

Possible reasons that cause the symptoms may present ideas for treatment interventions. Chronic pancreatitis is not a benign disease. Long treatment, medications, diagnostic and treatment procedures, may alter the clinical picture of the chronic pancreatitis, as well.

Pancreatic failure is often characterized by frequent attacks of abdominal pain accompanied by progressive deterioration of exocrine and endocrine pancreatic functions that require many hospitalizations. A significant percentage of patients in the *pancreatic deficiency* and *pancreatic failure* stages of chronic pancreatitis are young alcohol addicts and those who are dependent on painkillers. Comorbidities are significantly related to the quality of life and course of these patients especially with age.

The impact of chronic pancreatitis and its treatment on the patient's overall well-being and functioning has recently become a subject of clinical research. Several questionnaires have been utilized to evaluate the health-related quality of life of individuals with chronic pancreatitis in the *pancreatic failure* stage.

4 extended studies evaluating the quality of life during chronic pancreatitis have recently been published; these studies involved mixed medical-surgical patients. Italian doctors Pezzilli R. *et al.* (2006) wrote: "All four studies demonstrated that patients with chronic pancreatitis have a substantially impaired quality of life and, most importantly, the impairment of the quality of life in younger patients is higher than in older ones with obvious economic consequences for society".[340]

The topic of this book does not include conventional treatments of the *pancreatic failure* stage (medication, surgery, endoscopic procedures, etc.). Severity and polymorphism of symptoms of *pancreatic failure* require multidisciplinary approaches for this condition.

Even in this final stage, the nondrug, non-knife methods can improve the quality of life and prolong the survival rate of sufferers with this malady.

The 4 areas that are valuable in this matter include pain, enzymatic deficiencies, various nutritional deficiencies and dysbiosis. Alleviating chronic pain, restoring the enzymatic function, inner ecology and replacing

the nutritional deficiencies are the most urgent goals for healing *pancreatic failure*.

In the *pancreatic failure* stage, these basic actions are very beneficial and include:

- ◊ Healing Diet
- ◊ Drinking healing mineral water prepared from genuine Karlovy Vary spring salt
- ◊ European Whole Body Cleansing through the Restoration of Friendly Intestinal Flora and Colon Hydrotherapy
- ◊ Anti-Candida Program

In the *pancreatic failure* stage, treatment approaches of conventional medicine are typically limited because the condition is extremely complex and serious. Involving practitioners of the holistic and alternative medicines may give the patient more chances to extend and improve the quality of life.

Interesting facts at a glance:

Chronic pancreatitis begins from the first attack of pancreatitis

Unfortunately, most of these attacks are mild and may mix up with other GI disorders

Even one mild attack of pancreatitis damages the pancreas; therefore, this increases the risk of premature activation of pancreatic enzymes inside this gland in the future

The problem is that the pancreas has a huge, vital functional capacity. Symptoms such as severe indigestion with diarrhea, weight loss, and severe pain occur when only 10% of the pancreatic capacity remains

There is no cure for chronic pancreatitis; therefore, early treatment has a greater opportunity to obtain stable remission

Some severe problems have to be solved to help the person with chronic pancreatitis, and they require expertise, knowledge, and experience in different fields of medicine. These problems must be treated simultaneously

The first problem is persistent inflammation and destruction of the pancreas with development of fibrosis and scars, which, in turn, lead to the decreasing of functional pancreatic tissue and exocrine and endocrine pancreatic deficiencies. This process leads to maldigestion and malabsorption with multiple gastrointestinal complaints

The second problem is an annoying, sometimes debilitating pain. Hence, the large numbers of individuals with chronic pancreatitis have dependencies to painkillers, especially opiates, and psych drugs. Some sufferers from chronic pancreatitis are alcohol addicts

The third problem is that almost all individuals in the *pancreatic deficiency* stage suffer from considerable intestinal dysbiosis (Candida-yeast overgrowth, Small Intestine Bacterial Overgrowth) mostly after numerous courses of broad-spectrum antibiotics and low exocrine pancreatic function

The fourth problem includes severe nutritional deficiencies that are connected with diseases, treatment, lifestyle, and eating habits

In chronic pancreatitis, the survival defense process, as inflammation, over time can shift to the opposite destructive process with severe structural changes and loss of functional tissue

The healing actions in chronic pancreatitis have to focus on both provocative factors and chronic inflammation simultaneously

Nondrug methods may be utilized to reduce inflammation and possible infections and include the diet, botanicals, nutritional supplements, acupuncture, etc

The holistic and alternative approaches may be combined with conventional methods of treatment to improve the quality of life and lifespan of the individual with *pancreatic failure*

The positive changes may only be achieved by the efforts of many different professionals: medical doctors, naturopathic physicians, herbalists, chiropractors, acupuncturists, nutritionists, colon hydro therapists, etc. and by the patients themselves and their caregivers.

Some Final Words

The topic of this book is extremely important. The pancreas is a vital, mysterious organ in the human body.

Scientists and medical professionals only begin to fully understand the role of the pancreas for health, the development of pancreatic diseases and their treatment. The pancreas has a huge but not endless functional capacity. Hence, symptoms of the pancreatic structure and function damage often appear when the treatment possibilities are very restricted.

The authors avoid discussion about medications, surgery, endoscopic procedures, and sophisticated tests. There are many medical books and articles about these subjects.

This book intends to place the attention of researchers, medical practitioners, caregivers, and patients themselves on the initial process of damage to this gland when the pancreas can still be healed.

To help readers with different backgrounds, the authors use special approaches.

Simplicity: The pancreas is one of the most complex organs with multiple tasks and functions. The authors attempt to explain the pancreas by using simple words *for individuals lacking a medical background*.

Analogy: Information about the pancreas is not easy to comprehend. Therefore, the authors compare some processes with something that is easy to understand.

Deep Scientific Research: This book is designed for the open-minded and curious, although conservative members of the medical community. It is well known from human psychology, that what people do not know or do not understand and believe they usually simply deny. Some ideas in this book are relatively new. To avoid skepticism from the medical community, the authors use 340 references from famous and respectful researchers, professors, medical doctors, and alternative practitioners, all over the globe to support their ideas and conclusions.

Common Sense: No dogma, no authority. Readers get the facts and can make their own decision.

Repetition: Some material repeats a few times in this book for the purpose to focus on key points. Practically speaking, repetitions can make readers catch the important ideas of the authors, focus, and remember them.

Safety: Is always the priority. All healing methods from this book have evidence based on usage by millions of people and scientific proof of their

safety.

Combination: Nowadays there is no panacea for pancreatic health and nobody can say he/she knows everything about the pancreas. Only combinations of the different therapeutic approaches, including traditional medicine can actually help the patient to avoid, heal, and control pancreatic diseases.

Active practical involvement: Participation of the person in the prevention and treatment is necessary to achieve the positive result, even in severe pancreatic diseases.

No Negativism: This book does not criticize or judge someone or something. The authors share only their experience and practice of other health professionals in helping subjects with many digestive (pancreatic) disorders by using nondrug, non-knife approaches.

Practical Tools: Unfortunately, digestive (pancreatic) problems occur now in almost all families. Practical tools make this book is useful for patients, caregivers, and medical practitioners. The authors offer a practical clinical classification that divides all digestive (pancreatic) disorders into 3 categories: functional, partial reversible, and final. It may help primary health providers to put attention on the early stage of the process.

Currently, there is no simple and effective test in everyday clinical practice to verify the early stages of the exocrine pancreatic deficiency. Therefore, our **clinical classification** may help now to distinct the level of the pancreatic involvement in various digestive disorders and customize a therapeutic approach.

Millions of people suffer from various digestive disorders and diseases, and almost all of them have poor pancreatic function. This book offers nondrug, non-knife practical tools to heal pancreatic (digestive) disorders. These approaches to heal pancreatic (digestive) disorders are based on our review of world literature, our many years of experience and the reports we have found from patients, caregivers and other health practitioners.

Healthy Pancreas = Healthy You!

References

1. Friedreich N. Disease of the pancreas. Cyclopedia of the Practice of Medicine. New York: William Wood, 1878.
2. Apte MV, Wilson JS, Korsten MA. Alcohol-Related Pancreatic Damage. Alcohol health and research world (Alcohol Health Res World), published in United States. 1997; 21(1):13-20
<http://pubs.niaaa.nih.gov/publications/arh21-1/13.pdf>
3. Lott JA. Clinical Pathology of Pancreatic Disorders. Humana Press, Totowa, New Jersey. 1997. p. 59

4. Anthony J, DiMarino, Stanley B. Gastrointestinal disease: an endoscopic approach. Slack Incorporated; 2002:(1090).
5. Tinto A, Lloyd DAJ, Kang JY, Majeed A, Ellis C, Williamson RCN, Maxwell JD. Acute and chronic pancreatitis - diseases on the rise: a study of hospital admissions in England 1989/90-1999/2000. *Alimentary Pharmacology & Therapeutics*; December 2002;16(12):2097-2105
6. Digestive diseases in the United States: Epidemiology and Impact – NIH Publication No. 94-1447, NIDDK, 1994.
<http://www.wrongdiagnosis.com/p/pancreatitis/hospital.htm>
7. Steven L. Bricker, Robert P. Langlais, Craig S. Miller. Oral Diagnosis, Oral Medicine and Treatment Planning. Edition: 2 – 2001, p.281
8. Lowenfels A, Maisonneuve P, <http://www.citeulike.org/author/Maisonneuve:P> Sullivan T. The changing character of acute pancreatitis: Epidemiology, etiology, and prognosis. *Current Gastroenterology Reports*, (1 April 2009);11(2):97-103.
9. Park A *et al.* Changing Referral Trends of Acute Pancreatitis in Children: A 12-year Single-center Analysis *Journal of pediatric gastroenterology and nutrition* 2009, vol. 49, n3, pp. 316-322
10. Brown A, Young B, Morton J, Behrns K, Shaheen N. Are Health Related Outcomes in Acute Pancreatitis Improving? An Analysis of National Trends in the U.S. from 1997 to 2003. *JOP. J Pancreas (Online)* July 2008; 9 (4):408-414.
11. Gardner TB, Berk BS, Yakshe P. Acute Pancreatitis. <http://emedicine.medscape.com/article/181364-overview> Updated: Jun 10, 2008
12. Whitcomb DC. Advances in Understanding the Mechanisms Leading to Chronic Pancreatitis. *Nat Clin Pract Gastroenterol Hepatol.* 2004 Nov;1(1):46-52.
13. Kinney TP, Freeman ML. Approach to acute, recurrent, and chronic pancreatitis. *Minn Med.* 2008 Jun; 91(6):29-33.
14. Testoni PA. Aetiologies of Recurrent Acute Pancreatitis: Acute or Chronic Relapsing Disease?. *JOP. J Pancreas (Online)* 2001; 2(6):357-367.

15. Obideen K, Yakshe P, Wehbi M. Pancreatitis, Chronic. <http://emedicine.medscape.com/article/181554-overview>
16. Pancreatitis. The University of Maryland Medical Center (UMMC). Medical Reference. <http://www.umm.edu/altmed/articles/pancreatitis-000122.htm>
17. Buchler MW, Friess H, Uhl W, Malfertheiner P. Chronic Pancreatitis. 2002. p.8 Blackwell Publishing
18. Tinto A, Lloyd DAJ *et al.* Acute and chronic pancreatitis - diseases on the rise: a study of hospital admissions in England 1989/90-1999/2000. *Alimentary Pharmacology & Therapeutics*: Volume 16(12) December 2002, p 2097-2105
19. Rothenbacher D , Löw M, *et al.* Prevalence and determinants of exocrine pancreatic insufficiency among older adults: Results of a population-based study. *Scandinavian Journal of Gastroenterology*, 2005, Vol. 40, No. 6, Pages 697-704.
20. Cawley T.A. A singular case of diabetes, consisting entirely in the quantity of urine with an inquiry into the different theories of that disease. *Lond Med J* 1788; 9; 286
21. Gullo L. Alcohol and Chronic Pancreatitis: Leading or Secondary Etiopathogenetic Role? *JOP. J Pancreas (Online)* 2005; 6(1 Suppl.):68-72.
22. Irving HM, Samokhvalov AV, Rehm J. Alcohol as a risk factor for pancreatitis. A systematic review and meta-analysis". *JOP , Journal of the pancreas*. 2009;10(4):387-92
23. Minoti V, Apte MV, Wilson JS, Korsten MA. Alcohol-Related Pancreatic Damage. Mechanisms and Treatment. <http://pubs.niaaa.nih.gov/publications/arh21-1/13.pdf>
24. Pezzilli R, Lioce A, Frulloni L. Chronic Pancreatitis: A Changing Etiology? *JOP. J Pancreas (Online)* 2008; 9(5):588-592.
25. Moss H., Chen C, Yi H. Subtypes of alcohol dependence in nationally representative sample. *Alcoholism: Clinical and Experimental Research*. 2007. 32(2):306-313.
26. Opie EL. The etiology of acute hemorrhagic pancreatitis. *Bull Johns Hopkins Hospital* 1901; 12:182-8.

27. Marotta PJ, Gregor JC, Taves DH. Biliary sludge: a risk factor for idiopathic pancreatitis? *Can J Gastroenterol*. 1996; 10:385-8.
28. Marks JW, Bonorris G. Intermittency of cholesterol crystals in duodenal bile from gallstone patients. *Gastroenterology*. 1984; 87:622-7.
29. Ros E, Navarro S, Bru C, Garcia-Pugès A, Valderrama R. Occult microlithiasis in idiopathic acute pancreatitis: prevention of relapses by cholecystectomy or ursodeoxycholic acid therapy. *Gastroenterology*. 1991; 101:1701-9.
30. Neoptolemos JP, Davidson BR, Winder AF, Vallance D. Role of duodenal bile duct crystal analysis in the investigation of idiopathic pancreatitis. *Br J Surg*. 1988; 75:450-3.
31. Testoni PA, Caporuscio S, Bagnolo F, Lella F. Idiopathic recurrent pancreatitis: long-term results after ERCP, endoscopic sphincterotomy, or ursodeoxycholic acid treatment. *Am J Gastroenterol*. 2000; 95:1702-7.
32. Hofmann AF, Mysels K. Bile acid solubility and precipitation in vitro and in vivo: the role of conjugation, pH, and Ca²⁺ ions. *Journal of Lipid Research*. 1992, Vol 33, 617-626.
33. Whitcomb DC. Inflammation and Cancer V. Chronic pancreatitis and pancreatic cancer. *Am J Physiol Gastrointest Liver Physiol*. 287: G315-G319, 2004; <http://ajpgi.physiology.org/cgi/content/full/287/2/G315>
34. Howes N, Lerch MM, Greenhalf W, et al. Clinical and genetic characteristics of hereditary pancreatitis in Europe. *Clin Gastroenterol*. 2004;2: 252–261.
35. Lowenfels AB, Maisonneuve P, Cavallini G, et al. Pancreatitis and the risk of pancreatic cancer. *N Engl J Med* 1993;328:1433–1437,
36. Talamini G. Duodenal acidity may increase the risk of pancreatic cancer in the course of chronic pancreatitis: an etiopathogenic hypothesis. *JOP*. 2005 Mar 10;6(2):122-7.
37. Miwa K, et al. Is bile or are pancreaticoduodenal secretions related to gastric carcinogenesis in rats with reflux through the pylorus? *J Cancer Res Clin Oncol*. 1992; 118(8):570-4.
38. Ye W, Lagergren J, Weiderpass E, Nyren O, Adami H-Q, Ekbom A. Alcohol abuse and the risk of pancreatic cancer". *Gut*. 2002; 51: 236- 239.

39. Marks JW, (Shiel WC, Medical Editor). Indigestion (Dyspepsia, Upset Stomach) <http://www.medicinenet.com/dyspepsia/article.htm>
40. Digestive Diseases Statistics in US. NIH Publication No. 06–3873 December 2005. <http://digestive.niddk.nih.gov/statistics/statistics.htm>
41. Santelmann H, Howard JM. Holistisk Senter, Oslo, Norway. Yeast metabolic products, yeast antigens and yeasts as possible triggers for irritable bowel syndrome. Eur J Gastroenterol Hepatol. 2005 Jan;17(1):21-6.
42. Leo Galland, M.D., Stephen Barrie, N.D. Intestinal Dysbiosis and the Causes of Disease. <http://www.ei-resource.org/articles/candida-and-gut-dysbiosis-articles/intestinal-parasites,-bacterial-dysbiosis-and-leaky-gut/>
43. Kellow JE. Sphincter of Oddi dysfunction type III: Another manifestation of visceral hyperalgesia? Gastroenterology.1999;116(4):996-1000
44. Walker BG, Phear DN, Martin, FIR. Inhibition of Insulin by Acidosis". Lancet. 1963;(2):946.
45. Cuthberg C, Alberti KG. Acidemia and insulin resistance in the diabetic ketoacidotic rat. Metabolism, 1978, Dec;27(12 supply 2):1903-16.
46. Soler NG, Bennett MA, Fitzgerald MG. Successful Resuscitation in Diabetic Keto-Acidosis: A Strong Case for the Use of Bicarbonate. Postgrad. Med. J. 1974;(50), 465.
47. Priestley M.A., "Acidosis, Metabolic". <http://emedicine.medscape.com/article/906440-overview>
48. Androque HJ, Chap Z, Okuda Y, *et al.* Acidosis-induced glucose intolerance is not prevented by adrenergic blockade. Am j Physiol.1988 Dec;255(6 Pt 1):E812-23.
49. Frassetto L, Morris RC, Todd K, Sebastian A. Chronic Low-Grade Metabolic Acidosis in Normal Adult Humans: Pathophysiology and Consequences. Medical Science Symposia Series, 1999;(13) Risk Reduction Strategies — Improved Quality of Health. Women's Health and Menopause.
50. Hardt PD, Brendel MD, Kloer HU, Bretzel RG. Is Pancreatic Diabetes (Type 3c Diabetes) Underdiagnosed and Misdiagnosed? Diabetes Care.

February 2008;(31):165-169.

51. Andren-Sandberg A, Hardt PD. Second Giessen International Workshop on Interactions of Exocrine and Endocrine Pancreatic Diseases. *J Pancreas* (Online) 2008; 9(4):541-575.

52. Hardt PD, Hauenschild A, Nalop J, et al. High prevalence of exocrine pancreatic insufficiency in diabetes mellitus. A multicenter study screening fecal elastase 1 concentrations in 1,021 diabetic patients. *Pancreatology*. 2003; 3:395-402.

53. Hardt PD, Hauenschild A, Jaeger C, *et al*. High prevalence of steatorrhea in 101 diabetic patients likely to suffer from exocrine pancreatic insufficiency according to low fecal elastase 1 concentrations: a prospective multicenter study. *Dig Dis Sci* 2003; 48:1688-92.

54. Bank S, Marks IN, Vinik AI. Clinical and hormonal aspects of pancreatic diabetes. *Am J Gastroenterol*. 1975; 64:13-22.

55. Rathmann W, Haastert B, Icks A, *et al*. Low faecal elastase 1 concentrations in type 2 diabetes mellitus. *Scand J Gastroenterol*. 2001; 36:1056-61.

56. May RJ, Goyal RK. Effects of Diabetes Mellitus on the Digestive System. In: Kahn CR, Weir GC, eds. *Joslin's Diabetes Mellitus*. 13th edition. Philadelphia: Lea & Febiger, 1994; 921-54.

57. Trimble ER, Bruzzone R, Herberg L. Abnormalities of pancreatic exocrine function in obesity: studies in the obese mouse. *Comp Biochem Physiol A Comp Physiol*. 1986;83(2):387-90.

58. Jun Seok Lee, Dae Won Jun, Ji Young Park, *et al*. Clinical implications of fatty pancreas: Correlations between fatty pancreas and metabolic syndrome. *World J Gastroenterol*. 2009 April 21;15(15):1869-1875.

59. Martínez J, Johnson CD, Sánchez-Payá J, *et al*. Obesity Is a Definitive Risk Factor of Severity and Mortality in Acute Pancreatitis: An Updated Meta-Analysis. *Pancreatology*. 2006;6:206-209

60. McCance K, Huether S. *Pathophysiology: the biologic basis for diseases in adults and children*. 2nd ed. 1994, Mosby.

61. M. Tischer Hoerner. The buffer capacity of the pancreatic juice. *American Journal of Digestive Diseases*, 1935, Vol 2; 5:300.

62. Frassetto L, Morris R.C, Sebastian A. Potassium Bicarbonate Reduces Urinary Nitrogen Excretion in Postmenopausal Women. *Journal of Clinical Endocrinology and Metabolism*, 1997;82(1): 254-259.
63. Morris R.C., Schmidlin O., Frassetto L.A., Sebastian A. Relationship and Interaction between Sodium and Potassium. *Journal of the American College of Nutrition*. 2006; Vol. 25, No. 90003, 262-270.
64. Sebastian A., Frassetto LA, Sellmeyer DE, Merriam RL, Morris RC. Estimation of the net acid load of the diet of ancestral preagricultural Homo sapiens and their hominid ancestors". *American Journal of Clinical Nutrition*. 2002;76(6):1308-1316.
65. Vormann J, Remer T. Dietary, Metabolic, Physiologic, and Disease-Related Aspects of Acid-Base Balance: Foreword to the Contributions of the Second International Acid-Base Symposium. *J. Nutr.* 138:413S-414S, February 2008
66. Whitney EN, *et al.* *Understanding Nutrition*. 5th ed., St., Paul, MN: West Publishing Co., 1990; 144.
67. Murray MT. Pancreatic Enzymes. Key to Powerful Anti-Inflammatory & Immune Support.
http://www.myhealthmybody.com/trellis/ADM1745_Pancreatic_Enzymes
68. Keller J, Layer P. Human pancreatic exocrine response to nutrients in health and disease. *Gut*. 2005;54 (Suppl VI):vi1–vi28.
69. Harada H, Hayashi T, Ono A, et al. Analysis of human pure pancreatic juice in chronic pancreatitis and cancer of the pancreas. *Gastroenterol Jpn* 1978;13:461– 7.
70. Rinderknecht H. The pancreas: biology, pathobiology and disease. New York: Raven Press, 1993:219–51.
71. DiMagno EP, Malagelada JR, Go VL, *et al.* Fate of orally ingested enzymes in pancreatic insufficiency. *N Engl J Med* 1977;296:1318–22.
72. Layer P, Keller J. Pancreatic enzymes: secretion and luminal nutrient digestion in health and disease. *J Clin Gastroenterol*. 1999;28:3–10.
73. Gonzalez N.J. http://www.dr-gonzalez.com/clinical_pearls.htm

74. Lopez DA, Williams RM, Miehlke M. Enzymes. The Fountain of Life. 1994. The Neville Press, Inc.
75. Fitzpatrick W J, Zentler-Munro P L, Northfield T C. Ileal resection: effect of cimetidine and taurine on intrajejunal bile acid precipitation and lipid solubilisation. Gut. 1986 January;27(1):66–72.
76. Avdhal NH. Gallbladder and Biliary Tract Diseases. 2000. Marcel Dekker, Inc.
77. Sanmiguel C, Soffer EE. Intestinal dysmotility and its relationship to sphincter of Oddi dysfunction. Current Gastroenterology Reports. 2004;6(Number 2):137-139.
78. Clavien PA, Baillie J. Diseases of the Gallbladder and Bile Ducts. 2006 2nd editions, Wiley-Blackwell.
79. Lee SP, Nicholls JF, Park HZ. Biliary sludge as a cause of acute pancreatitis. NEJM. 1992;326:589-593.
80. Marotta PJ, Gregor JC, Taves DH. Biliary sludge: a risk factor for idiopathic pancreatitis? Can J Gastroenterol 1996; 10:385-8.
81. Yamada T, Alpers DH, Laine L, Owyang C, Powell DW. Textbook of gastroenterology. 3rd ed. 1999, by Lippincott publishers.
82. Walter F., PhD. Boron (2003). Medical Physiology: A Cellular and Molecular Approach. Elsevier/Saunders. pp. 1300.
83. U.S. Department of Health and Human Services (2008). Bariatric Surgery for Severe Obesity (NIH Publication No. 04-4006). www.win.niddk.nih.gov/publications/gastric.htm.
84. Lambou-Gianoukos S. Bile Metabolism and Cholelithiasis (A comprehensive review for the monthly publication Clinics of North America). Senior Scholars Program. 2008.
85. Anderson MC, Hauman RL, Suriyapa C, Schiller WR. Pancreatic enzyme levels in bile of patients with extrahepatic biliary tract disease. Am J Surg. 1979 Mar;137(3):301-6.
86. Myneni N, Minocha A. Bile Acids and Esophageal Injury: A Resolution to the Controversy? Am J Gastroenterol. 1999 Dec;94(12):3649-3650
87. Frulloni L, Cavallini G. Acute Recurrent Pancreatitis and Dysfunction of the Sphincter of Oddi: Comparison between Invasive and Non-Invasive

Techniques.

JOP. J Pancreas (Online) 2001; 2(6):406-413.

88. Sebastian A, Harris ST, Ottaway JH, Todd KM, Morris RC. Improved mineral balance and skeletal metabolism in postmenopausal women treated with potassium bicarbonate. *N Engl J Med* 1994 Jun 23;330(25):1776-81.

89. Steer ML, Waxman I, Freedman S. Chronic Pancreatitis. *NEJM*. 1995; 332(22):1482-1490.

90. Ammann R.W. The natural history of alcoholic chronic pancreatitis. *Internal Medicine* 2001;40(5):368-375.

91. Vonlaufen A, Wilson J, Pipola RC, Apte MV. Role of alcohol metabolism in chronic pancreatitis.

Alcohol Res Health. 2007;30(1):48-54.

92. Ammann R.W., Muellhaupt B. Progression of alcoholic acute to chronic pancreatitis. *Gut*. 1994;35(4):552-556.

93. Apte MV, Wilson JS, McCaughan GW, et al. Ethanol-induced alterations in messenger RNA levels correlate with glandular content of pancreatic enzymes. *Journal of Laboratory and Clinical Medicine*.1995;125:634–640.

94. Haber PS, Wilson JS, Apte MV, Korsten MA, Pirola RC. Chronic ethanol consumption increases the fragility of rat pancreatic zymogen granules. *Gut*. 1994;35:1474–1478.

95. Whitcomb DC, Gorry MC, Preston RA. Hereditary pancreatitis is caused by a mutation in the cationic trypsinogen gene. *Nature Genetics*. 1996;14:141–145.

96. Haber PS, Wilson JS, Apte MV, Korsten MA, Pirola RC. Individual susceptibility to alcoholic pancreatitis: Still an enigma. *Journal of Laboratory and Clinical Medicine*. 1995;125(3):305–312.

97. Sarles H. An international survey on nutrition and pancreatitis. *Digestion*. 1973; 9:389-403.

98. Singer MV, Brenner DA. Alcohol and the gastrointestinal tract in *Digestive Diseases* (2005). Karger.

99. Schneider A, Singer MV. Alcoholic Pancreatitis. *Dig Dis.* 2005;23:222-231
100. Saunders J H, Wormsley K G. Pancreatic extracts in the treatment of pancreatic exocrine insufficiency. *Gut* 1975 16: 157-162
101. Johnson LR, Byrne JH. *Essential Medical Physiology.* 2003, 3rd edit .Academic Press, USA.
102. Matsuno S, Sasaki Y, Kobari M, *et al.* Initial Pathophysiological Changes in Chronic Pancreatitis Induced by Pancreatic Ductular Obstruction Model. *Tohoku J. Exp. Med.*1991;163(3):199-210.
103. Talamini G. Duodenal Acidity May Increase the Risk of Pancreatic Cancer in the Course of Chronic Pancreatitis: An Etiopathogenetic Hypothesis. *JOP. J Pancreas (Online)* 2005; 6(2):122-127.
104. Scratcherd T. Case RM. The secretion of electrolytes by the pancreas. *Am. J. Clinical Nutrition.* Mar 1973;26:326 - 339.
105. Case RM, Harper AA, Scratcherd T. The secretion of electrolytes and enzymes by the pancreas of the anaesthetized cat. *J. Physiol.*1969;201:335-348.
106. Baron J.H. The Pancreas. *The Mount Sinai Journal of Medicine.* January 2000; 67(1):68-75.
107. Hereditary Pancreatitis.
<http://www.ucpancreas.org/hereditarypancreatitis.htm>
108. Giorgio Talamini *et al.* Alcohol and Smoking as Risk Factors in Chronic Pancreatitis and Pancreatic Cancer. *Digestive Diseases and Sciences.* 1999;44(7):1303-1311.
109. Everhart JE, editor. The burden of digestive diseases in the United States. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: US Government Printing Office, 2008; NIH Publication No. 09-6443.
110. Whitcomb DC. Molecular and genetic mechanisms of acute and chronic pancreatitis. *International Congress Series Vol.1255*, August 2003, Pages 49-60.

111. Whitcomb DC, Ermentrout DB. A mathematical model of the pancreatic duct cell generating high bicarbonate concentrations in pancreatic juice. *Pancreas*, 2004, August 29: E30-E40.
112. Bennett WS, Huber R. Structural and functional aspects of domain motions in proteins. *CRC, Crit Rev Biochem*. 1984;15:291-384.
113. Nimmo J, Finlayson NDC, Smith AF, Shearman DJC. The production of calcium and magnesium during pancreatic function tests in health and disease. *Gut*. 1970, February;11(2):163–166.
114. Case RM, Scratcerd T, D'A Wynne R. The origin and secretion of pancreatic juice bicarbonate. *J Physiol. (London)* 1970;210:1.
115. Ball EO, Tucker HF, Solomon AK, Vennesland B. The source of pancreatic juice bicarbonate. *J. Biol. Chem.*1941;140:119.
116. Lieb JG II, Draganov PV. Pancreatic function testing: Here to stay for the 21st century. *World J Gastroenterol*. 2008;14(20):3149–3158.
117. Nair RJ, Lawler L, Miller MR. Chronic pancreatitis. *Am Fam Physician*. 2007;76:1679-1688.
118. Melzer J, Rösch W, Reichling J, Brignoli R, Saller R. Meta-analysis: phytotherapy of functional dyspepsia with the herbal drug preparation STW 5 (Iberogast). *Alimentary Pharmacology & Therapeutics*. 2004;20(11-12):1279-1287.
119. Mahadeva S, Goh KL. Epidemiology of functional dyspepsia: A global perspective. *World J Gastroenterol* 2006;12(17):2661-2666.
120. Duggan JM, Duggan AE. *The Epidemiology of Alimentary Diseases*. 2006, Springer Netherlands.
121. Smith RC, Talley NJ, Dent OF, et al. Exocrine pancreatic function and chronic unexplained dyspepsia. A case-control study. *Int J Pancreatol* 1991;8:253-62.
122. Everhart JE, editor. *The burden of digestive diseases in the United States*. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: US Government Printing Office, 2008; NIH Publication No. 09-6443

123. Lee OY, Schmulson M, Mayer EA. Common functional gastrointestinal disorders: Nonulcer dyspepsia and irritable bowel syndrome. *Clinical Cornerstone*. 1999;1(5):57-71.

124. Ashizawa N, Hashimoto T, Miyake T, *et al*. Efficacy of camostat mesilate compared with famotidine for treatment of functional dyspepsia: Is camostat mesilate effective? *Journal of Gastroenterology and Hepatology*. 2005;21(4): 767-771.

125. Talley NJ. Irritable Bowel Syndrome: From Epidemiology to Treatment

<http://cme.medscape.com/viewarticle/463420>

126. Tutega AK, Talley NJ, Joos SK, Hickam DH. Overlap of functional dyspepsia and irritable bowel syndrome in a community sample. *Am J Gastroenterol*. 2003;98:272.

127. Leeds JS, Hopper AD, Sidhu R, *at al*. Some Patients with Irritable Bowel Syndrome may have Exocrine Pancreatic Insufficiency. *Clin Gastroenterol Hepatol*. 2009 Oct 13. [Epub ahead of print].
<http://www.ncbi.nlm.nih.gov/pubmed/19835990>

128. Bennett E, Evans P, Dowsett J, Kellow J. Sphincter of Oddi dysfunction: Psychosocial distress correlates with manometric dyskinesia but not stenosis *World J Gastroenterol* 2009 December 28;15(48):6080-6085

129. Abraham HD, Anderson C, Lee D. Somatization Disorder in Sphincter of Oddi Dysfunction. *Psychosomatic Medicine*. 1997;59:553-557.

130. Okada R, Okada A, Okada T, *et al*. Elevated Serum Lipase Levels in Patients with Dyspepsia of Unknown Cause in General Practice. *Med Princ Pract* 2009;18:130-136.

131. Lindström E, Schenck H, Ihse I. Pancreatic exocrine and endocrine function in patients with pancreas divisum and abdominal pain. *Int J Pancreatol*. 1990 Jan;6(1):17-24.

132. Worning H. Exocrine Pancreatic Function in Dyspepsia. *Digestion* 1987;37 (Suppl. 1):3-13.

133. Cole JA, Rothman KJ, Cabral HJ, *et al*. (2006). "Migraine, fibromyalgia, and depression among people with IBS: a prevalence study".

BMC gastroenterology 6: 26.

134. Whitehead WE, Palsson O, Jones KR. Systematic review of the comorbidity of irritable bowel syndrome with other disorders: what are the causes and implications?. *Gastroenterology*. 2002;122 (4):1140–56.

135. Bercik P, Verdu EF, Collins SM. Is irritable bowel syndrome a low-grade inflammatory bowel disease? *Gastroenterol. Clin. North Am.* 2005;34(2):235–45, vi-vii.

136. García Rodríguez LA, Ruigómez A, Wallander MA, Johansson S, Olbe L Detection of colorectal tumor and inflammatory bowel disease during follow-up of patients with initial diagnosis of irritable bowel syndrome. *Scand. J. Gastroenterol.* 2000;35(3):306–11.

137. Corazziari E, Attili AF, Angeletti C, De Santis A. Gallstones, cholecystectomy and irritable bowel syndrome (IBS) MICOL population-based study. *Dig Liver Dis.* 2008;40(12):944–50.

138. Longstreth GF, Yao JF. Irritable bowel syndrome and surgery: a multivariable analysis. *Gastroenterology* 2004;126(7):1665–73.

139. Gallstones and gallbladder disease – Diagnosis. Staff of University of Maryland Medical Center, Baltimore, MD,USA. June 26, 2009 http://www.umm.edu/patiented/articles/how_gallstones_gallbladder_disease_diagnosed_000010_6.htm

140. Len Saputo, M.D. Dysbiosis and Irritable Bowel Syndrome (IBS). <http://hmc.alternativehealth.com/irritable-bowel.htm>

141. Galland L. Nutraceuticals for Gastrointestinal Disorders. Foundation for Integrated Medicine. 2008. http://mdheal.org/articles/gastrointestinaldisorders_files/frame.htm

142. McLaughlin JT. How Should We Classify and Treat Patients with Functional Gastrointestinal Disorders? *Ther Adv Gastroenterol.* 2008;1(3):153-156.

143. Gauss H. Biliary constipation. *American Journal of Digestive Diseases.* 1943; 10(4):141-143.

144. Laurence Scott Bailen, M.D. Tufts Open Course Ware <http://ocw.tufts.edu/Content/48/lecturenotes/571075>

145. Professional guide to signs and symptoms. Springhouse Corporation. PA 1993;182,324,385,252.
146. Margolis S. Johns Hopkins symptoms and remedies, the complete home medical reference. Rebus: NY 1995;496,498,519,561-62.
147. Weber AM, Roy CC, Chartrand L, et al. Relationship between bile acid malabsorption and pancreatic insufficiency in cystic fibrosis. Gut. 1976 April; 17(4): 295–299.
148. Pierzynowski SG, Zabielski R. Biology of the pancreas in growing animals. 1999, p.131.
149. Rubinstein E, Mark Z, Haspel J, *et al.* Antibacterial activity of the pancreatic fluid. Gastroenterology. 1985 Apr; 88(4):927-32.
150. Ramare F, Nicoli J, Dabard J, et al. Trypsin-dependent production of an antibacterial substance by a human *Peptostreptococcus* strain in gnotobiotic rats and in vitro. Appl Environ Microbiol. 1993 September; 59(9):2876–2883.
151. Marotta F, Tajiri H, Li Z, Barreto R, *et al.* Pure pancreatic juice from patients with chronic pancreatitis has an impaired antibacterial activity. International Journal of Gastrointestinal Cancer, 1997, Vol. 22, Num. 3.
152. Laubitz D, Zabielski R, Wolinski J, *et al.* Physiological and chemical characteristics of antibacterial activity of pancreatic juice. J Physiol Pharmacol. 2003 Jun;54(2):283-90.
153. Pappas PG et al., Clinical Practice Guidelines for the Management of Candidiasis: 2009 Update by the Infectious Diseases Society of America. Clin Infect Dis. 2009 Mar 1;48(5):503-35.
<http://guideline.gov/content.aspx?id=14174>
154. Pappas PG (2006). "Invasive candidiasis". Infect. Dis. Clin. North Am. 20 (3): 485–506.
155. Hawrelak JA. The causes of intestinal dysbiosis: a review. Alternative Medicine Review. June, 2004
http://findarticles.com/p/articles/mi_m0FDN/is_2_9/ai_n6112781/
156. Yajima D, Motani H, Kamei K, Sato Y, Hayakawa M, Iwase H. Ethanol production by *Candida albicans* in postmortem human blood

samples: Effects of blood glucose level and dilution. *Forensic Science International*, 2006;164(2):116-121.

157. Husebye E. The pathogenesis of gastrointestinal bacterial overgrowth. *Chemotherapy*, 2005, 51(Suppl 1):1–22.

158. Pierzynowski SG, Sharma P, Sobczyk J. Garwacki , Barej V, Westrom. *Pancreas*, 8 (1993), 546.

159. Hunnisett A, Howard J, Davies S. Gut fermentation (or the 'Auto brewery') Syndrome: A New Clinical Test with Initial Observations and Discussion of Clinical and Biochemical Implications. *J.Nutr.Med.* 1990;1:33–8

160. Reddymasu SC, Sostarich S, McCallum RW. Small intestinal bacterial overgrowth in irritable bowel syndrome: are there any predictors? *BMC Gastroenterology* 2010, 10:23.

161. Majewski M, McCallum RW. Results of small intestinal bacterial overgrowth testing in irritable bowel syndrome patients: clinical profiles and effects of antibiotic trial. *Adv Med Sci.* 2007; 52:139-42.

162. Manibusan PA, Hawley JS, Richard E Frye RE *et al.* Bacterial Overgrowth Syndrome. 2009.
<http://emedicine.medscape.com/article/212861-print>

163. DiBaise JK. Nutritional Consequences of Small Intestinal Bacterial Overgrowth. *Practical Gastroenterology*, series #69, December 2008,
<http://www.healthsystem.virginia.edu/internet/digestivehealth/nutritionarticles/dibaisearticle.pdf>

164. Trespi E, Ferrieri A. Intestinal bacterial overgrowth during chronic pancreatitis. *Curr Med Res Opin*, 1999;15:47-52.

165. Van Felius ID, Akkermans LM, Bosscha K, *et al.* Interdigestive small bowel motility and duodenal bacterial overgrowth in experimental acute pancreatitis. *Neurogastroenterol Motil*, 2003;15:267-276.

166. Hoerauf, A, Hammer S, Muller-Myhsok B, *et al.* Intra-abdominal *Candida* infection during acute necrotizing pancreatitis has a high prevalence and is associated with increased mortality. *Crit Care Med.*1998.26:2010-2015.

167. Talwar GP, Srivastava LM. Textbook of Biochemistry and Human Biology. 2004. 3rd Ed. PHI learning Ltd.
168. Czako L, Hegyi P, Rakonczay Z, *et al.* Interactions between the Endocrine and Exocrine Pancreas and Their Clinical Relevance. *Pancreatology* 2009;9:351-359.
169. Ito T, Otsuki M, Itoi T, Shimosegawa T, *et al.* Research Committee of Intractable Diseases of the Pancreas: Pancreatic diabetes in a follow-up survey of chronic pancreatitis in Japan. *J Gastroenterol* 2007; 42: 291–297.
170. Introduction to Enzymes. Worthington Enzyme Manual. Worthington Biochemical Corporation. 2010.<http://www.worthington-biochem.com/introbiochem/default.html>
171. Mc Clave S.A. Feeding the chronically ill patient. Audio-Digest Gastroenterology. 42nd Annual Gastroenterology Update. The Cleveland Clinic, Department of Gastroenterology and Hepatology. Recorded at November, 2006.
172. Talamini G. Duodenal Acidity May Increase the Risk of Pancreatic Cancer in the Course of Chronic Pancreatitis: An Etiopathogenetic Hypothesis *JOP. J Pancreas (Online)* 2005; 6(2):122-127.
173. Raeder M, Mo A, Aune S. Effect of plasma H⁺-ion concentration on pancreatic HCO₃⁻ secretion. *Acta Physiologica Scandinavica*. 2008;105(4):420-427.
174. Cheng CL, Sherman S, Watkins JL, Barnett J, Freeman M, *et al.* Risk Factors for Post-ERCP Pancreatitis: A Prospective Multicenter Study. *Am J Gastroenterol*. 2006 Jan;101(1):139-47.
175. Pezzilli R. Chronic pancreatitis: Maldigestion, intestinal ecology and intestinal inflammation. *World J Gastroenterol*. 2009, 15(14): 1673–1676.
176. Hope BK, Baker R, Edel ED, *et al.* An overview of the Salmonella enteritidis risk assessment for shell eggs and egg products. *Risk Anal* 2002 22(2):203-18. U.S. Department of Agriculture, Food Safety and Inspection Service, Washington, DC, USA.
177. Howell E. Food Enzymes for Health & Longevity. 1994, 2nd edition. Lotus Press.

178. Mosaad A. Abou-Seif, Abd-Allah Youssef. Evaluation of some biochemical changes in diabetic patients. *Clinica Chimica Acta*. 2004;346(2):161-170.
179. Stuart Ira Fox. *Human Physiology*. 4th edition, 1993. Wm. C. Brown Communication, Inc.
180. Frassetto L, Sebastian A. Age and systemic acid-base equilibrium: analysis of published data. *J Gerontol*. 1996;51:91–99.
181. Frassetto L, Morris Jr RC, Sebastian A. Effect of age on blood acid-base composition in adult humans: role of age-related renal functional decline. *Am J Physiol*. 1996;271:1114–1122.
182. Alpern RJ, Sakhaee K. The clinical spectrum of chronic metabolic acidosis: homeostatic mechanisms produce significant morbidity. *Am J Kidney Dis*. 1997 Feb;29(2):291-302.
183. Wiederkehr M, Krapf R. Metabolic and endocrine effects of metabolic acidosis in humans. *Swiss Med Wkly*. 2001; 131(9-10):127-32.
184. Eaton SB, Konner MJ, Cordain L. Diet-dependent acid load, Paleolithic nutrition, and evolutionary health promotion. *Am J Clin Nutr* 2010;91:295–7
185. Cordain L, Eaton SB, Miller JB, Mann N, Hill K. The paradoxical nature of hunter-gatherer diets: meat-based, yet non-atherogenic. *Eur J Clin Nutr*. 2002 Mar;56 Suppl1:42-52.
186. Vormann J, Remer T. Dietary, Metabolic, Physiologic, and Disease-Related Aspects of Acid-Base Balance: Foreword to the Contributions of the Second International Acid-Base Symposium. 2008 *J. Nutr*. 138:413S-414S.
187. Zhang L, Curhan GC, Forman JP. Diet-Dependent Net Acid Load and Risk of Incident Hypertension in United States Women. *Hypertension*. 2009;54:751.
188. Scratcherd T, Case RM. The secretion of electrolytes by the pancreas. *Am J Clin Nutr* 1973;26:326-339.
189. Rothman S, Liebow C, Isenman L. Conservation of Digestive Enzymes. *Physiol. Rev*. 2002, 82: 1-18.

190. Green NM, Work E. Pancreatic Trypsin Inhibitor. 2. Reaction with trypsin. *Biochem J.* 1953 May; 54(2):347–352.
191. Rege RV, Moore EW. Pathogenesis of calcium-containing gallstones. Canine ductular bile, but not gallbladder bile, is supersaturated with calcium carbonate. *J Clin Invest.* 1986;77(1):21–26.
192. Freeman HJ. Hepatobiliary and pancreatic disorders in celiac disease. *World J Gastroenterol* 2006 March 14;12(10):1503-1508
193. Camilleri M, Dubois D, Coulie B, *et al.* Prevalence and socioeconomic impact of upper gastrointestinal disorders in the United States: results of the US Upper Gastrointestinal Study. *Clin Gastroenterol Hepatol* 2005 Jun;3(6):543-52.
194. Schneider A, Streitberger K, Joos S. Acupuncture treatment in gastrointestinal diseases: a systematic review. *World J Gastroenterol.* 2007 Jul 7;13(25):3417-24.
195. Li J, Shi XF, Zhou LY, Xue DB. Experimental study on electroacupuncture for strengthening gastrointestinal motility in the rat with acute pancreatitis. *Zhongguo Zhen Jui* 2008 May;28(5):365-8.
196. Wang XY. Electro acupuncture for treatment of acute pancreatitis and its effect on the intestinal permeability of the patient. *Zhongguo Zhen Jui* 2007 Jun; 27(6):421-3.
197. Wang XY, Shi X, He L. Effect of electro acupuncture on gastrointestinal dynamics in acute pancreatitis patients and its mechanism. *Zhen Ci Yan Jui* 2007;32(3):199-202.
198. Qi QH, Xue CR, Wang PZ. Analysis of treatment in 84 cases of severe pancreatitis. *Zhongguo Zhong Xi Yi Jie He Za Zhi* 1995 Jan;15(1):28-30.
199. Sun NF, Zhang JL. Treatment of severe acute biliary pancreatitis in the elderly by integrated traditional Chinese and Western medicine. *Zhongguo Zhong Xi Yi Jie He Za Zhi* 2009 Feb;29(2):126-9.
200. Takahashi T. Acupuncture for Functional Gastrointestinal Disorders. *J Gastroenterol.* 2006 May; 41(5):408-17.
201. Festen HP. Intrinsic factor secretion and cobalamin absorption. Physiology and pathophysiology in the gastrointestinal tract. *Scand J Gastroenterol Suppl.* 1991;188:1-7.

202. Tierney S, Qian Z, Lipsett PA, *et al.* Ethanol inhibits sphincter of Oddi motility. *J Gastrointest Surg* 1998 Jul-Aug;2(4):356-62.
203. Drossman DA, Li Z, Andruzzi E, Temple RD, *et al.* U.S. householder survey of functional gastrointestinal disorders. Prevalence, sociodemography, and health impact. *Dig Dis Sci* 1993; 38: 1569-1580.
204. Levy RL, Linde JA, Feld KA, *et al.* The Association of Gastrointestinal Symptoms with Weight, Diet, and Exercise in Weight-Loss Program Participants. *Clin Gastroent Hepat.* 2005;3(10):992-996.
205. Minato K, Shiroya Y, Nakae Y, Kondo T. The effect of chronic exercise on the rat pancreas. *International Journal of Gastrointestinal Cancer.* 2000;27(2);151-156.
206. Sareen S, Kumari V. Yoga for rehabilitation in chronic pancreatitis. *Gut* 2006;55:1051.
207. Gonsalkorale WM, Miller V, Afzal A, Whorwell PJ. (2003). Long term benefits of hypnotherapy for irritable bowel syndrome. *Gut.* 52(11):1623-9.
208. Whorwell PJ, Prior A, Faragher EB. Controlled trial of hypnotherapy in the treatment of severe refractory irritable-bowel syndrome. *Lancet.* 1984;2:1232–1234.
209. Palsson OS, Turner MJ, Whitehead WE. Hypnosis home treatment for irritable bowel syndrome: a pilot study. *Int J Clin Exp Hypn.* 2006 Jan;54(1):85-99.
210. Chiarioni G, Palsson OS, Whitehead WE. Hypnosis and upper digestive function and disease. *World J Gastroenterol* 2008;14(41): 6276-6284.
211. Calvert EL, Houghton LA, Cooper P, Morris J, Whorwell PJ. Long-term improvement in functional dyspepsia using hypnotherapy. *Gastroenterology* 2002; 123: 1778-1785.
212. James H. Steward. Hypnosis in Contemporary Medicine. *Mayo Clinic Proceedings* April 2005;80(4): 511-524.
213. Nehra D, Howell P, Williams CP, *et al.* Toxic bile acids in gastro-oesophageal reflux disease: influence of gastric acidity. *Gut* 1999;44:598-602.

214. Usui R, Ise H, Suzuki N, Matsuno S. Factors affecting human bile pH. *Journal of Gastroenterology*. 1991; 26(4):0944-1174.
215. Myneni N, Minocha A. Bile Acids and Esophageal Injury: A Resolution to the Controversy? *Am J Gastroenterol* 1999 Dec;94(12):3649-50.
216. Orel R, Markovic S. Bile in the Esophagus: A Factor in the Pathogenesis of Reflux Esophagitis in Children.S. *J Ped Gastroenterol Nutr* 2003;36:266-273.
217. Salo JA, Kivilaakso E. Contribution of trypsin and cholate to the pathogenesis of experimental alkaline reflux esophagitis.Scand J Gastroenterol 1984 Oct;19(7):875-81.
218. Cronin J, Williams L, McAdam E, *et al.* The role of secondary bile acids in neoplastic development in the oesophagus. *Biochem Soc Trans* 2010 Apr;38(2):337-42.
219. Roberto Penagini. Bile reflux and oesophagitis. *European Journal of Gastroenterology & Hepatology*: 2001 Jan; 13(1):1-3
220. Evenepoel P. Alteration in digestion and absorption of nutrients during profound acid suppression. *Clin Gastroenterol*. 2001 Jun;5,(3):539-551.
221. Theisen J, Nehra D, Citron D, *et al.* Suppression of gastric acid secretion in patients with gastroesophageal reflux disease results in gastric bacterial overgrowth and deconjugation of bile acids. *J Gastrointest Surg* 2000 Jan-Feb;4(1):50-4.
222. Gutenbruner C, Hildebrandt G. *Handbuch der neilwasser Trinkkuren*. (1994). Sountag verlag Stuttgart. P. 3655.
223. Benda, J., Jezdinsky, J. Antiphlogistische wirkung der Karlsbader mineralwasser. II. Einfeuss der peroralen Applikation des Karlsbader mineralwassers auf verschiedene Typen der experimentellen Entzündung bei ratten.' (1978). *Balneol. Bohem*, 7(1). Pp. 1-5.
224. Solc, P. *Karlovarska lazenska leba a medicina na prelomu 20. A21. Stoleti.* (2000). Galen, Praha.
225. Benda, J. *Karlovarsky Mlynsky Pramen. Domaci pitna lecba. DTP-servis mariuuskelazue.* (1997).

226. Zou D, Chen WH, Iwakiri K, *et al.* Inhibition of transient lower esophageal sphincter relaxations by electrical acupoint stimulation. *Am J Physiol Gastrointest Liver Physiol.* 2005 Aug;289(2).
227. Gershon, MD The second brain. 1998. Harper-Collins Publishers Inc.
228. Niederau C, Grendell JH. Intracellular vacuoles in experimental acute pancreatitis in rats and mice are an acidified compartment. *J Clin Invest.* 1988;81(1):229–236.
229. Bhoomagoud M, Jung T, Atladottir J, *et al.* Reducing extracellular pH sensitizes the acinar cell to secretagogue-induced pancreatitis responses in rats. *Gastroenterology.* 2009 September;137(3):1083–1092.
230. Aloia T, Solomkin J, Fink AS, *et al.* Candida in Pancreatic infection: A Clinical Experience. *Am Surg.* 1994;60:793–796.
231. Collins SM, Denou E, Verdu EF, Bercik P. The putative role of the intestinal microbiota in the irritable bowel syndrome. *Digestive and liver Disease.* December 2009;41(12):850-853.
232. Regan PT, Malagelada JR, Dimagno EP, Go VL. Postprandial gastric function in pancreatic insufficiency. *Gut,* 1979, 20, 249-254.
233. Meshkinpour H, Molloy M. Sphincter of Oddi dysfunction and unexplained abdominal pain: clinical and manometric study. *Dig Dis Sci*1992;37:257-261.
234. Baillie J. Sphincter of Oddi Dysfunction: Overdue for an Overhaul. *Am J Gastroenter.* 2005;100:1217–1220.
235. Genovese T, Mazzon E, Di Paola R, Muià C, *et al.* Hypericum Perforatum Attenuates the Development of Cerulein-Induced Acute Pancreatitis in Mice. *Shock.* February 2006; 25(2):161-167.
236. Adelman SA, Meehan WJ. Opioid Abuse. Updated: Nov 19, 2010
<http://emedicine.medscape.com/article/287790>
237. Jacob, Stanley W. M.D., Lawrence, Ronald M. M.D., Ph.D., Zucker, Martin. The Miracle of MSM; The Natural Solution for Pain. New York: Berkley Books, 1999.
238. Russell AL, McCarty MF. DL-phenylalanine markedly potentiates opiate analgesia - an example of nutrient/pharmaceutical up-regulation of the endogenous analgesia system. *Med Hypotheses* 2000 Oct;55(4):283-8.

239. Ehrenpreis S. D-phenylalanine and other enkephalinase inhibitors as pharmacological agents: implications for some important therapeutic application. *Acupunct Electrother Res.* 1982;7(2-3):157-72.

240. Kitade T, Minamikawa M, Nawata T, *et al.* An experimental study on the enhancing effects of phenylalanine on acupuncture analgesia. *Am J Chin Med.* 1981 Autumn;9(3):243-8.

241. Pezzilli R, Fantini L. Antioxidants and Pain Control in Patients with Chronic Pancreatitis: A Never-Ending Story. *Turk J Med Sci* 2007;37(1):3-6

242. Murray MT, Pizzorno JE. *Encyclopedia of Natural Medicine.* 1997. Revised 2nd ed. Three Rivers Press.

243. Biswas SK, Chaffin WL. Anaerobic Growth of *Candida albicans* Does Not Support Biofilm Formation Under Similar Conditions Used for Aerobic Biofilm. *Current Microbiology*, Vol. 51(2005), pp. 100-104.

244. Borchers AT, Selmi C, Meyers FJ, Keen CL, Gershwin ME. Probiotics and immunity. *Journal of Gastroenterology.* 2009; 44(1):26-46.

245. De Vrese M, Schrezenmeir J. Probiotics, Prebiotics, and Synbiotics. *Advances in Biochemical Engineering/Biotechnology* 2008;111:1-66.

246. Dukowicz AC, Lacy BE, Levine GM. Small Intestinal Bacterial Overgrowth:

A Comprehensive Review.
http://www.clinicaladvances.com/article_pdfs/gh-article-200702-lacy.pdf

247. Zaidel O, Lin HC. Uninvited Guests: The Impact of Small Intestinal Bacterial Overgrowth on Nutritional Status. *Practical Gastroenterology*, July 2003. <http://www.healthsystem.virginia.edu/internet/digestive-health/nutritionarticles/zaidelarticle.pdf>

248. Lee D. Small Intestinal Bacterial Overgrowth (SIBO). *MedicineNet.com.* Last Editorial Review: 10/28/2005
http://www.medicinenet.com/small_intestinal_bacterial_overgrowth/article.htm

249. Cichoke AJ. *Enzymes and enzyme therapy; how to jump start your way to lifelong health.* 1994. Keats Publishing, Inc.

250. Melamed P. Scientific explanation how the Karlovy Vary Healing Mineral Water may help people with pancreatic disorders.

http://www.biotherapy-clinic.com/Karlovy%20Vary_and_%20chronic_pancreatitis.pdf

251. Howell E. Enzyme Nutrition. The food enzyme concept. 1985.
252. Hauser SC, Pardi DS, Poterucha JJ. Mayo Clinic gastroenterology and hepatology board review. 2005. 2nd ad. Mayo Clinic Scientific Press.
253. King D, Mainous A 3rd, Geesey M, Woolson R. Dietary magnesium and C-reactive protein levels. J Am Coll Nutr. 2005 Jun 24(3):166-71.
254. Nijenhuis T, Renkema KY, Hoenderop JG, *et al.* Acid-base status determines the renal expression of Ca²⁺ and Mg²⁺ transport proteins. J Am Soc Nephrol. Mar 2006;17(3):617-26.
255. Scanian BJ, Tuft B, Elfrey JE, *et al.* Intestinal inflammation caused by magnesium deficiency alters basal and oxidative stress-induced intestinal function. Mol Cell Biochem, 2007 Dec; 306(1-2):59-69.
256. Hersh T, Siddiqui DA. Magnesium and the pancreas. Am J Clin Nutr. 1973;26:362-366.
257. Papazachariou IM, Martinez-Isla A, Efthimiou E, Williamson RC, GirgisSI. Magnesium deficiency in patients with chronic pancreatitis identified by an intravenous loading test. Clinica Chimica Acta. 2000;302(1-2):145-154.
258. Firoz M, Graber M. Bioavailability of US commercial magnesium preparations. Magnes Res. 2001 Dec; 14(4):257-62.
259. Frassetto L.A., Morris R.C., Sellmeyer D.E., Sebastian A. Adverse Effects of Sodium Chloride on Bone in the Aging Human Population Resulting from Habitual Consumption of Typical American Diets. Second International Acid-Base Symposium, Nutrition–Health–Disease, held in Munich, Germany, September 8–9, 2006. J. Nutr. 2008;138:419–422.
260. Pezzilli R, Barassi A, Morselli-Labate AM, Fantini L, *et al.* Fecal calprotectin and elastase 1 determinations in patients with pancreatic diseases: a possible link between pancreatic insufficiency and intestinal inflammation. J Gastroenterol. 2007; 42(9):754-60.
261. Gibson P, Shepherd SJ. Evidence-based Dietary Management of Functional Gastrointestinal Symptoms: The FODMAP Approach. J Gastroenterol Hepatol. 2010;25(2):252-258.

262. Ong DK, Mitchell SB, Barrett JS, *et al.* Manipulation of dietary short chain carbohydrates alters the pattern of gas production and genesis of symptoms in irritable bowel syndrome. *J Gastroenterol Hepatol.* 2010 Aug;25(8):1335-6.
263. King TS, Elia M, Hunter JO. Abnormal colonic fermentation in irritable bowel syndrome. *Lancet.* 1998 Oct 10;352(9135):1187-9.
264. Nwokolo C, Oli J. Pathogenesis of juvenile tropical pancreatitis syndrome. *Lancet.* 1980 Mar 1;1(8166):456-9.
265. Barzilai A, Medina JA, Toth L, Dreiling DA. The effect of hypovolemic shock on pancreatic secretion. *Int J Pancreatol.* 1986 Dec;1(5-6):373-9.
266. Robert JH, Toledano AE, Toth LS, Premus G, Dreiling DA. Hypovolemic shock, pancreatic blood flow, and pancreatitis. *International Journal of Gastrointestinal Cancer.* 1988, Vol.3, N4, p. 283-292
267. Olmstead, S, Meiss D, Ralston J. Practical Use of Probiotics and Prebiotics. *Townsend Letter for Doctors& Patients,* 2011; 336: 52-56.
268. GadEl-Hak NA, El-Hemaly M, Hamdy E, AbdEl-Raouf A, Mostafa M, Haleem M. Bile reflux measurement and its contribution to the severity of reflux esophagitis. *Saudi J Gastroenterol* 2007;13:180-6
269. Girish BN, Rajesh G, Vaidyanathan K, Balakrishnan V. Alterations in Plasma Amino Acid Levels in Chronic Pancreatitis. *JOP. J Pancreas* (Online) 2011 Jan 5; 12(1):11-18.
270. Barratt MR, Pool SE. *Principles of Clinical Medicine for Space Flight* 2008, p. 97, Springer Science +Business Media LLC New York
271. http://randypeterman.com/set4cpps/?page_id=6
272. Monfared S, Vahidi H, Abdolghaffari A, Abdollahi M. Antioxidant therapy in the management of acute, chronic and post-ERCP pancreatitis: A systematic review. *World J Gastroenterol.* 2009 September 28; 15(36): 4481–4490.
273. Isselbacher KJ. Chronic Pancreatitis: The Use of Antioxidants to Reduce Chronic Pain. <http://www.medscape.com/viewarticle/587229>
274. Selby P, Prasad N, Makin A, Berry J. Determinants of vitamin D deficiency in chronic pancreatitis. *Endocrine Abstracts* (2009) 19 P17

<http://www.endocrine-abstracts.org/ea/0019/ea0019p17.htm>

275. Dujsikova H, Dite P, Tomandl J, Sevcikova A, Precechtelova M. Occurrence of metabolic osteopathy in patients with chronic pancreatitis. *Pancreatology*. 2008;8(6):583-6.
276. Batmanghelidj F. *Your Body's Many Cries for Water: You Are Not Sick, You Are Thirsty! Don't Treat Thirst with Medications*. Falls Church, VA: Global Health Solutions, 1995.
277. Kolesar J, Dobis J, Sikoraj, S. (1964). "Vplyv pitia mineralni vody na pH žaludku." *Fyz. Vest*, 1964, 42(5). Pp. 250-255.
278. Benda J., Sadilek L. (2000) Prirodni hydrogenuhlicitanove mineralni vody v balneoterapii. *Rehabil. Fyz. Lek*, 4, Pp. 179-193
279. Ruzickova, A. Untersuchung despn des Magensekrets in vitro nach der Applikation von Karlsbader Mineralwasser. *Balenol. Bohem*, 1988, 16(3). Pp. 65-73.
280. Vala, L. (1969). Ucinok Karlovarske mineralni vody na vznik žaludecniho vředu. *Balneologia et balneotherapia Karlovy Vary Carlsbad XXIV*. 1969, Misto, naki, rokneuvedeny, p.264-267.
281. Parma, C. Stomatologiske indicace pro Karlovy Vary. *Fysiatr. Vest*, 1956, 34. P. 18-23.
282. Schee J, Benda J. (1963). Vysledky komplexni Karlovarske lecby u žaludecnich dispepsii. *Cs. Gastroent. Vyz*, 17. Pp. 321-336.
283. Schmidt-Kessen W. (1968). Die electrolytconcentrationen der Gewebe nach vierwochigen Mineralwasserfuhr. II Mitt. *Z. angew. Bader-und Klimaheil*, 15(5). Pp. 307-318.
284. Krizek V, Sadilek L. Studie vlivu pitne lecby Karlovarskym Mlynkym pramenem. *Zaverecna vyzkumna zprava ukolu 1983*, 23-03-11. P. 96.
285. Kroncl, P, Vavrinkova H, Michalec C, (1966) C Ucast zluce a zlučnicku v přeměně lipidu . *Praha: Stat. zdrav. nakl. Thomayerova sb.* 439.
286. Benda J., Stadlman A, Bendova J. (1985). Opakovane lazenske lecení pacientu po transplantaci jater. *Gastroent. Vyz*, 39(2). Pp. 104-105.
287. Benda, J. (1966). Vliv Karlovarske mineralni vody na vylučování zluce do duodena. I Studie cholekinetického účinku pomocí časovane duodenální sondy. *Cs. Gastroent. Vyz*, 20(2). Pp. 73-77.

288. Benda J. (1967). Die wirkung des Karlsbader Mineral wassers auf die Bildung and Ausscheidung der Galle. Osterreichische Arztezeitung. Pp. 74-79.
289. Solc P, Potmesil J, Krtek V, *et al.* (2000). Uciniek Karlovarske lazenskue lecby na primarni biliarni cirhozu a primarni sklerozujici cholangitidu, ktore byly dlouhodobu leceny kyselinou urzodeoxycholovou. Ces Slov Gastroent, 54.
290. Chenickova M. (1989). Vliv Karlovarske mineralni vody na zlucove Kyseliny v seru a jejich diagnosticka hodnota. Kandidatska disertacni prace. Marianske Lazne: Vyzkumny ustav balneologicky.
291. Gutenbruner C, Buhning M, Remper FU. (1992). Naturheilverfahren-Grandlagen, Methoden Nachweissituationi. Springer-Varlag, Berlin.Pp.1-40.
292. Wiechowski W. (1921). Weitere versuche uber die Mineralwasserwirkung speziell die des Karlsbader Mineralwassers. Wien. Med. Wchschr,71, s.1487.
293. Vozda J, Stepanek P,Krizek V. (1983) Vliv mineralny vody bohate kalciem na secrecy inzulinu. Balneol. Listy, 9,12. Pp 101-175.
294. Benda J, Balcarova O. The possibility to influence atherosclerosis risk factors by Carlsbad spa treatment. Balneologia et balneotherapia, Karlovy Vary. Pp. 233-240.
295. Benda J, Balcarova O, Picko V. (1972). Einfluss der wiederholten Karlsbader kur auf den Cholesterolspiegel bai 60-65 jahingen mannern. Balneol. Bohem. Pp. 16-27.
296. Benda J. Jezdinsky J. (1978). Antiphlogistische wirkung der Karlsbader mineralwasser. I. Wahl der methoden und verfahren bey der Durchfuhrung der Versuche. Balneol. Bohem, 6(4). Pp. 108-114.
297. Zdichynec B, Benda J, Scorcova I, Prochazka, D. (1983). Kvantitativni zmeny microflory tlustheho mineralnich vod u nemocnych s chronickow obstipaci a po cholecystectomii. Cs. Gastroent. Vyz, 37(3). P. 1611.
298. Sounenborn U, Greinwald R. (1991). Beziehungen zwischen Wirtorganismus and Darmflora. Stuttgart.

299. Zdichynec B. & Benda J. (1986). Príspevek k otázke transportu minerálu a vody sliznici tlustého streva u habitualni obstipace. Fysiat.Vestrik, 5.P. 292-297.
300. Zdichynec B., Svorcova L., Prochazka D. (1983). Kvantitativni zmeny mikroflory tlustého streva vlivem pití Karlovarských mineralnich vod u nemocnych s chronickou obstipací a po cholecystectomy. Cz. Gastroent. Vyz., 37. Pp. 161-169.
301. Benda J. (1996). Pitná lešba v lázních (Mechanisms působení přírodních mineralnich vod). Rehabilitace a fyzikální lékařství, 3(3). Pp. 117-126.
302. Kocian J. Kocianova J. (1963). Změny v moci během Karlovarské pitné léčby. Fysiatr. Vest, 41(2). P. 67.
303. Benda J. (1966). Vliv Karlovarské mineralni vody na vylučování žluče. Praha. Disertační práce.
304. Benda J. (1967). Treatment of biliary disease in Karlovy Vary. Rev. Czech Med. Pp. 1-15.
305. Hildebrandt G. (1985). Balneologie und medizinische Klimatologie. Band 2, Springer-Verlag, Berlin, Heidelberg, New York, Tokyo. 329s.
306. Nevoral V, Berdychova M, Lstiburkova M, Tesar J. (1989). Nové komplexní analýzy mineralnich vod CSR r. 1979-1988. Balneol. Listy, XVII, supl. 28, 315s.
307. Eberhardt G., Derisdan A, Nustede R, Shafmayer A. (1990). Kontrollierte ulinische studie mit Bad Mergentheimer Karlsquelle. Wirkung auf Gallenblasenkontraktion und Kormon Freisetzung. Keilbad Kurort, 42. P.187-191.
308. Benda J. (1966). Vliv Karlovarské mineralni vody na vylučování žluče. Praha. Disertační práce.
309. Benda J. (1969). Quantitative and qualitative verandlungen der lebersekretion bey langerdauernder Anwendung des Karlsbader mineralwassers. Karlsbader Med. Rev. P. 21-28.
310. Benda J. (1967). Treatment of biliary disease in Karlovy Vary. Rev. Czech Med. P. 1-15.

311. Skapik M, Skala I, Kyrál V. (1973). Die störung des mineralhaushaltes bei malabsorption zustanden und ihre beeinflussung durch die komplexe Kurbehandlung. Balneol. Bohem, 2. Pp. 102-114.
312. Keslir M, Niederle B, Benda, J, Grunner O. (1980). Prospektivni studie klinickeho vyznamu rehabilitace nenochych po cholecystektomi lazenskym lecenim v Karlovyych varech. Gastroent. Vyz, 34(5). Pp. 291-299.
313. Hasin D, Stinson FS, Ogburn E, Grant BF. Prevalence, Correlates, Disability, and Comorbidity of DSM-IV Alcohol Abuse and Dependence in the United States. Archives of General Psychiatry 64 (7): 830–42.
314. Schrauzer GN, Shrestha KP. Lithium in drinking water and the incidences of crimes, suicides, and arrests related to drug addictions. Biol Trace Elem Res. 1990 May;25(2):105-13.
315. Warburg O (1956). On the Origin of Cancer Cells. Science 123 (3191): 309–14.
316. Sennoune SR, Bakunts K, Martínez GM, *et al.* Vacuolar H⁺-ATPase in human breast cancer cells with distinct metastatic potential: distribution and functional activity. Am J Physiol Cell Physiol June 2004;286(6):1443-1452.
317. Marr KA (2004) Invasive Candida Infections: The Changing Epidemiology.
<http://www.cancernetwork.com/display/article/10165/105823>
318. HidalgoJA. Candidiasis
<http://emedicine.medscape.com/article/213853-overview#showall>
319. Raimondi S, Lowenfels AB, Morselli-Labate AM, Maisonneuve P, Pezzilli R. Pancreatic cancer in chronic pancreatitis; aetiology, incidence, and early detection. Best practice & research. Clinical gastroenterology. June 2010;24(3): 349-358.
320. DiNubile MJ, Hille D, Sable CA, Kartsonis NA. Invasive candidiasis in cancer patients: observations from a randomized clinical trial. J Infect. 2005 Jun;50(5):443-9.
321. Geus WP, Eddes EH, Gielkens HA, *et al.* Post-prandial intragastric and duodenal acidity are increased in patients with chronic pancreatitis. Aliment Pharmacol Ther. 1999 Jul;13(7):937-43.

322. Bini L, Fantini L, Pezzilli R, *et al.* Medical Therapy of Malabsorption in Patients with Head Pancreatic Resection JOP. J Pancreas (Online) 2007; 8(2):151-155.
323. Zaman A. Irritable bowel syndrome. Clinical Cornerstone, 2002; 4(4):22-31.
324. Hegglin R. Differentialdiagnose Innerer Krankheiten. Georg Thieme Verlag, Stuttgart, 1961, 8 Auflage.
325. Yarandi SS, Nasser-Moghaddam S, Mostajabi P, Malekzadeh R. Overlapping gastroesophageal reflux disease and irritable bowel syndrome: Increased dysfunctional symptoms. World J Gastroenterol. 2010 March 14; 16(10): 1232–1238.
326. Jürgens G, Graudal NA. Effects of low sodium diet versus high sodium diet on blood pressure, renin, aldosterone, catecholamines, cholesterols, and triglyceride. Cochrane Database of Systematic Reviews 2004, Issue 1. Art. No.: CD004022
327. Melamed P, Melamed F. Natural European Way of Whole Body Cleansing. Karlovy Vary Mineral Water for Healing and Rejuvenation. Published by Biotherapy Alternative Medicine Clinic. 2003.
328. Lederer E. Hypokalemia. <http://emedicine.medscape.com/article/242008-overview>
329. Baroody TA. Alkalize or Die 2001, p15. Holographic Health Press.
330. Lark SM, Richards JA. The chemistry of success: six secrets of peak performance. 2000. Bay Books&Tapes, San Francisco.
331. Cole JA, Yeaw JM, Cutone JA, *et al.* "The incidence of abdominal and pelvic surgery among patients with irritable bowel syndrome". Dig. Dis. Sci. 2005.50 (12): 2268–75.
332. Braganza JM, Dormandy TL. Micronutrient Therapy for Chronic Pancreatitis: Rationale and Impact. JOP. J Pancreas (Online) 2010 Mar 5; 11(2):99-112.
333. Kritchevsky SB. A Review of Scientific Research and Recommendations Regarding Eggs. Journal of the American College of Nutrition, Vol. 23, No. 90006, 596S-600S (2004)

334. Holt S. Metabolic Syndrome: Syndrome X, Y, Z ...? In Anti-Aging Therapeutics, Volume 12. 2010; Chapter 13
335. König G, Wancura J. Punkte und Regeln der neuen Chinesischen Akupunktur. – Wien-München-Bern: Verlag Wilhelm Maudrich, 1981
336. Michael Gershon. The Second Brain: A Groundbreaking New Understanding of Nervous Disorders of the Stomach and Intestine. HarperCollins Publishers. 1998, New York
337. Chou-Long Huang, Elizabeth Kuo. Mechanism of Hypokalemia in Magnesium Deficiency. JASN October 2007 vol. 18 no. 10. Pp. 2649-2652
338. Todd JA, de Caestecker J, Jankowski J. Gastro-Esophageal Reflux Disease and Bile Acids. Journal of Pediatric Gastroenterology & Nutrition: 2003, Vol. 36, Issue 2 - pp 172-174
339. GadEl-Hak NA, El-Hemaly M, Hamdy E, AbdEl-Raouf A, Mostafa M, Haleem M. Bile reflux measurement and its contribution to the severity of reflux esophagitis. Saudi J Gastroenterol 2007;13:180-6
340. Pezzilli R, Fantini *et al.* The Quality of Life in Chronic Pancreatitis: The Clinical Point of View JOP. J Pancreas (Online) 2006; 7(1 Suppl.):113-116.
341. Colvin L A, Fallon M T Opioid-induced hyperalgesia: a clinical challenge
Br. J. Anaesth. (2010) 104 (2): 125-127.
342. Zylicz Z, Twycross R. Opioid-Induced Hyperalgesia May Be More Frequent Than Previously Thought. Journal of Clinical Oncology March 20, 2008 vol. 26 no. 9 1564



This is the end of the **Part III: HOW TO IMPROVE THE EXOCRINE PANCREATIC FUNCTION, POSTPONE PANCREATIC DETERIORATION, AND HEAL DIGESTIVE (PANCREATIC) DISORDERS** of the e-book version of the **HEALTHY PANCREAS, HEALTHY YOU**

Other first parts are:

Part I: STRUCTURE, FUNCTION, AND DISORDERS OF THE PANCREAS

Part II: HEALING FOOD IN THE DIGESTIVE (PANCREATIC) AND METABOLIC DISORDERS

These two interrelated parts focus on the development pancreatic disorders and the healing diet for *acidic pancreas and bile, pancreatic deficiency* and *pancreatic failure* stages of the exocrine pancreatic deficiency.

Contents of entire HEALTHY PANCREAS, HEALTHY YOU book can illustrate the topics of the other parts.

About the Authors



Felix Melamed, LAc, MSTCM, CHt received a bachelor's degree in biology and psychology from Notre Dame de Namur University before pursuing a master's degree in Traditional Chinese Medicine from the Academy of Chinese Culture and Health Sciences in Oakland, CA. Mr. Felix Melamed is the author of a book "Natural European Way of Whole Body Cleansing" and numerous articles on diagnosis and treatment in Holistic and Traditional Chinese Medicine. He is currently in a private practice as an Executive Director of Biotherapy Alternative Medicine Clinic in San Francisco, California specializing in acupuncture, herbal medicine, clinical hypnosis, healing mineral water and detoxification modalities. Felix Melamed is a composer and musician, author of 4 CDs of his songs and compositions. He is married and has a son.

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